IP Surveillance System

User’s manual

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System Requirement

SYSTEM REQUIREMENT

Total FPS at CIF	480~640	360~480	240~360	120~240	0~120
CPU	Intel Core 2 Duo	Intel Pentium D 930	Intel Pentium D 930	Intel P4 2.8 GHz	Intel P4 2.4 GHz
RAM	1 GB	1 GB	1 GB	512 MB	512 MB
Mother-board	Intel 945 or 965 chip, Intel Chipset recommended				
Display	ATI Radeon 9200, nVIDIA GeForce FX-5200, Intel 945 / 965, or above (ATI recommended)				
Ethernet	100 BaseT or Above, Gigabit LAN Recommended				
Hard Disk	80 GB or above				
OS	MS Windows 2000 / XP Pro SP2 / 2003				

Quick Start
INSTALLATION

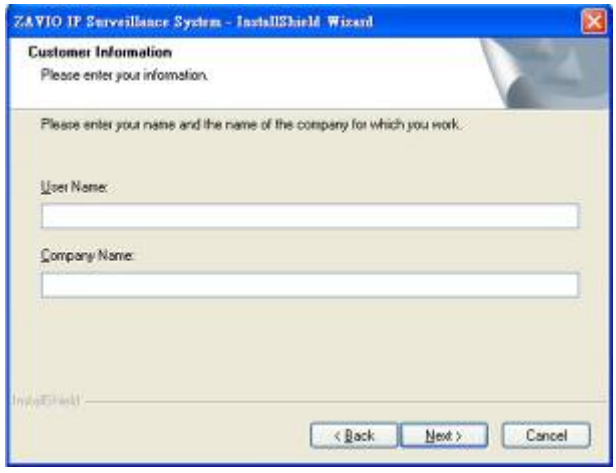
Step 1: Insert the Installation CD.

Step 2: Run Setup.exe from the CD-ROM driver/ directory to install.

Step 3: Check the option “I accept the terms of the license agreement”.

ZAVIO IP Surveillance System - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
End User License Agreement ("EULA")
Do not install or use the software until you have read and accepted all of the license terms. Permission to use the software is conditional upon your agreeing to the license terms. Installation or use of the software by you will be deemed to be acceptance of the license terms. Acceptance will bind you to the license terms in a legally enforceable contract with company.
* SOFTWARE LICENSE AND LIMITED WARRANTY
This is an agreement between you, the end user, and company. By using this software, you agree to become bound by the terms of this agreement.
I accept the terms of the license agreement
I do not accept the terms of the license agreement
Print
InstallShield
< Back
Next >
Cancel

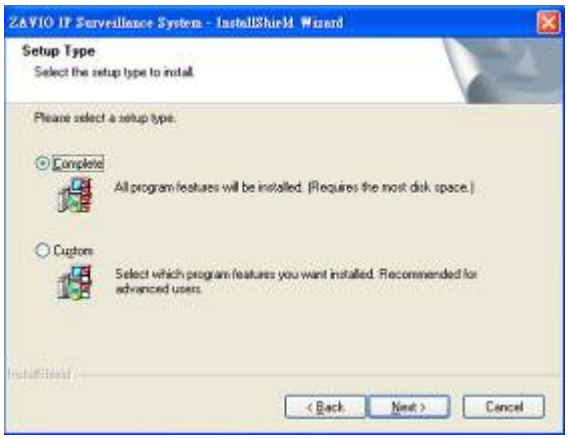
Step 4: Please enter your name and the company name for which you work.


ZAVIO IP Surveillance System - InstallShield Wizard
Customer Information
Please enter your information.
Please enter your name and the name of the company for which you work.
User Name:
Company Name:
InstallShield
< Back
Next >
Cancel

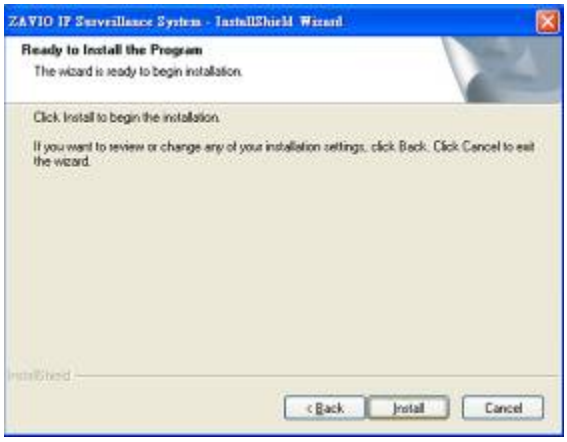
COMPLETE SETUP TYPE:

Install all program features into the default directory.

Check the option “Complete”.
All program features will be installed. [Require the most disk space.]


ZAVIO IP Surveillance System - InstallShield Wizard
Setup Type
Select the setup type to install.
Please select a setup type.
Complete
All program features will be installed. (Requires the most disk space.)
Custom
Select which program features you want installed. Recommended for advanced users.
InstallShield
< Back
Next >
Cancel

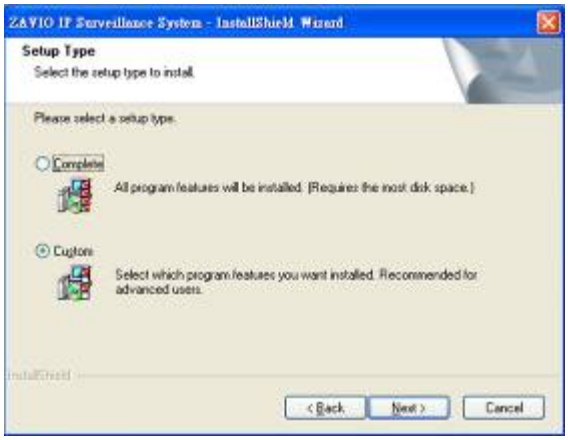
Press the “install” to start the installation.


ZAVIO IP Surveillance System - InstallShield Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel

Custom Setup Type:

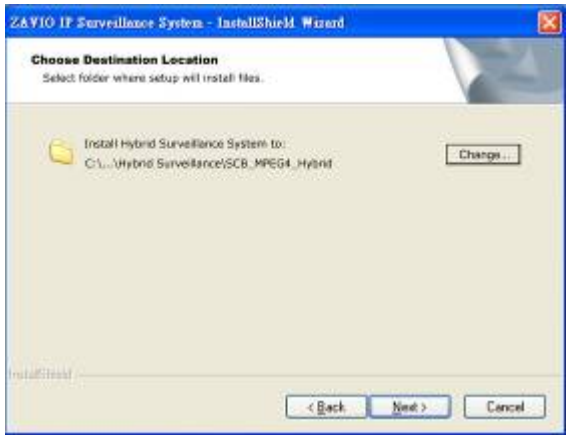
Install the system to a preferred directory. Or select whichever feature(s) you wish to install.

Check the option “Custom”.
Select which program features you want to install. This is recommended for advanced users.


ZAVIO IP Surveillance System - InstallShield Wizard
Setup Type
Select the setup type to install.
Please select a setup type.
Complete
All program features will be installed. (Requires the most disk space.)
Custom
Select which program features you want installed. Recommended for advanced users.
InstallShield
< Back
Next >
Cancel

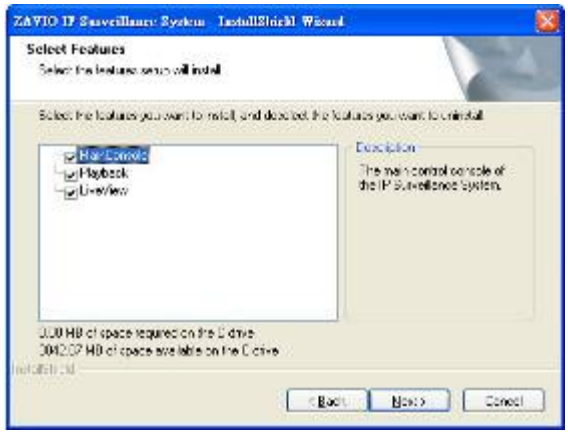
Quick Start

Select folder where setup will install files.



Select the features setup will install.

Hint: For example, select only Playback and LiveView for installation. Install and use only these features on multiple remote sites at home or anywhere with a PC.


ZAVIO IP Surveillance System - InstallShield Wizard
Select Features
Select the features setup will install.
Select the features you want to install, and deselect the features you want to uninstall.
Main Console
Playback
Live View
Description
The main control console of the IP Surveillance System.
InstallShield
< Back
Next >
Cancel

Press “Finish” to finish the installation.

ZAVIO IP Surveillance System - InstallShield Wizard
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed ZAVIO IP Surveillance System. Click Finish to exit the wizard.
< Back
Finish
Cancel

Execute the Main Console

Enter the password you like into the edit box and enter again at the edit of Password Confirm. And then press “OK”. Now enjoy our Intelligent Surveillance Solution.

Quick Start

Quick Start

Install IP camera(s)

Step 1: Setup the IP camera(s) following by the instruction manual provided by the manufacturer.

Step 2: Check the network between the IP camera(s) and the system.

Step 3: Add the IP camera(s) to the system following below steps.

ADD IP CAMERA(S)

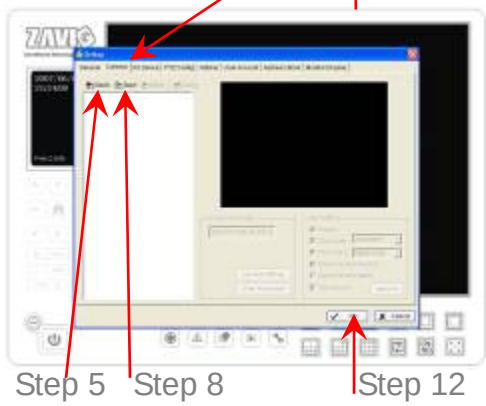
Step 1: Go to Start > All Programs > ZAVIO > IP Surveillance > Main Console.

Step 2: Type in user name and password and log on to the system.

Step 3: In Main Console, go to Config > Setting to obtain the Setting panel.

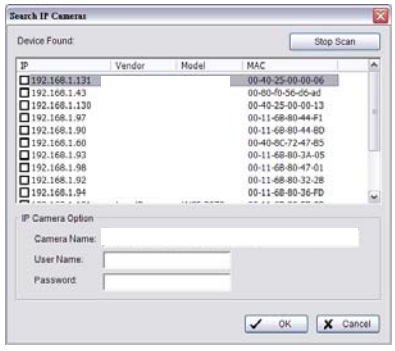
Step 4: Go to Camera tab.

If your IP cameras support UPnP. Follow step 5. Otherwise, follow step 8.



Step 5: Click “Search” to search for the IP cameras that are available at this point.

***Note**:* Search function just support the IP cameras with UPnP supported.



Step 6: Select one of the IP cameras that are available; check the option and enter the username and password.

Step 7: Click OK to add the camera.

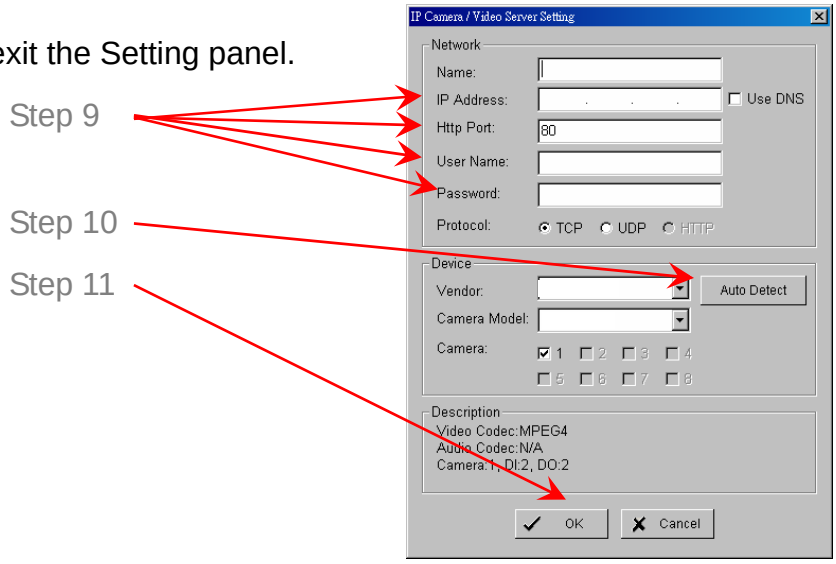
Step 8: Click “Insert” to insert the IP cameras.

Step 9: Enter the IP address or domain name (check the “Use DNS” option), Http Port, Username, and Password.

Step 10: Click “Auto Detect”

Step 11: Click OK to add the camera.

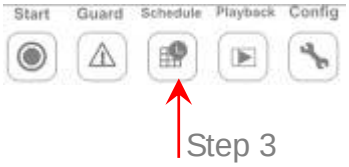
Step 12: Click OK to exit the Setting panel.



Set Schedule

Step 1: Go to Start > All Programs > ZAVIO > IP Surveillance > Main Console.

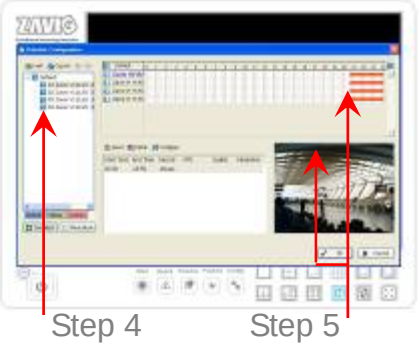
Step 2: Type in user name and password and log on to the system.



Step 3: In the Main Console, go to Schedule.

Step 4: By default, when inserting a camera to the system, the recording schedule is automatically set to be 24 hours a day, always record.

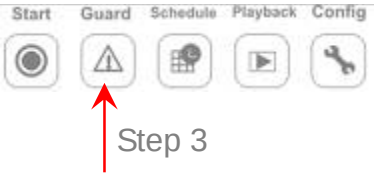
Step 5: Click Configure on the selected camera schedule or double click on any schedule bar to modify the recording mode.



Step 6: When satisfied with the schedule setting, click OK to update the recording schedule.

Step 7: Click OK again to go back to the Main Console.

SET SMART GUARD

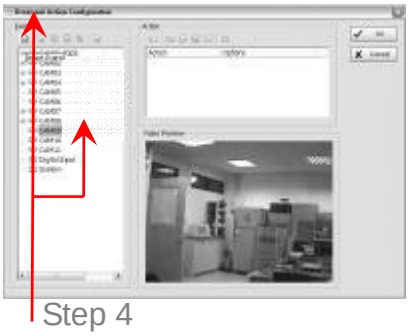


Step 1: Go to Start > All Programs > ZAVIO > IP Surveillance > Main Console.

Step 2: Type in user name and password and log on to the system.

Step 3: In the Main Console, go to Guard.

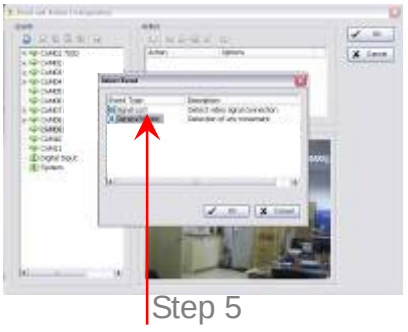
Step 4: Select a camera and then click on “Insert Event.”

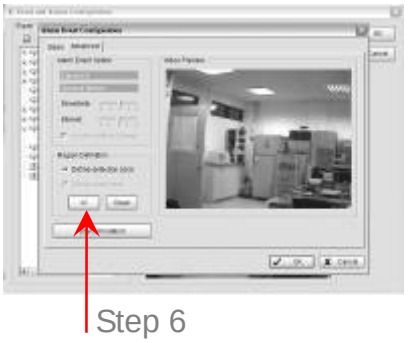


Step 5: Select General Motion as the event type, click OK.

Step 6:
In the Alarm Event Configuration panel, set the detection zone as all, and then click OK to exit the panel.

Step 7: Click OK to go back to the Main Console.



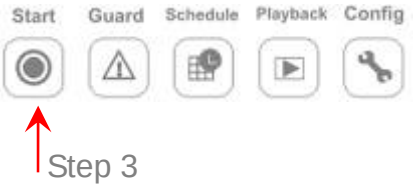


START RECORDING & SMART GUARD

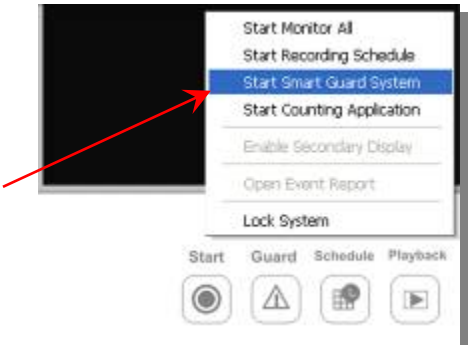
Step 1: Go to Start > All Programs > ZAVIO > IP Surveillance > Main Console.

Step 2: Type in user name and password and log on to the system.

Step 3: In the Main Console, go to Start.



Step 4: Click on “Start Recording Schedule” and “Start Smart Guard System” to initiate the two functions.



Step 4

PLAYBACK

Step 1: Go to Start > All Programs > ZAVIO > IP Surveillance > Main Console.

Step 2: Type in user name and password and log on to the system.

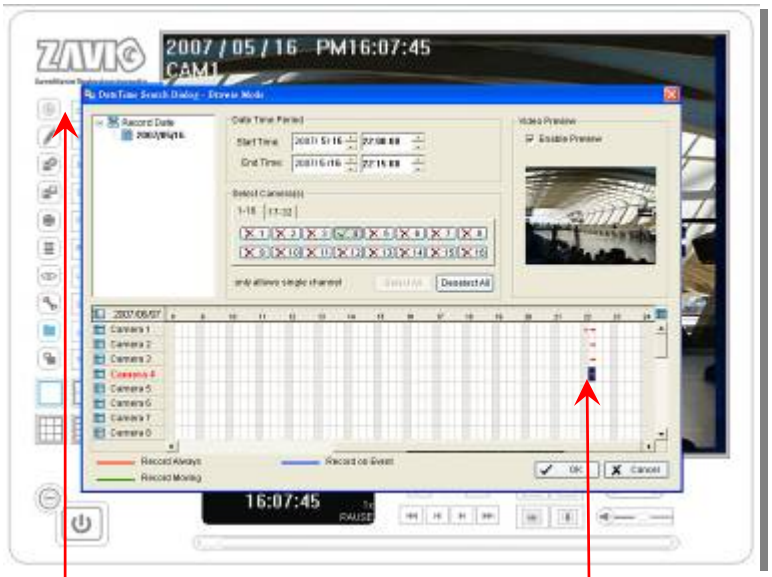
Step 3

Step 3: In the Main Console, go to Playback.

Step 4: In the Playback window, click on the Date Time Icon.

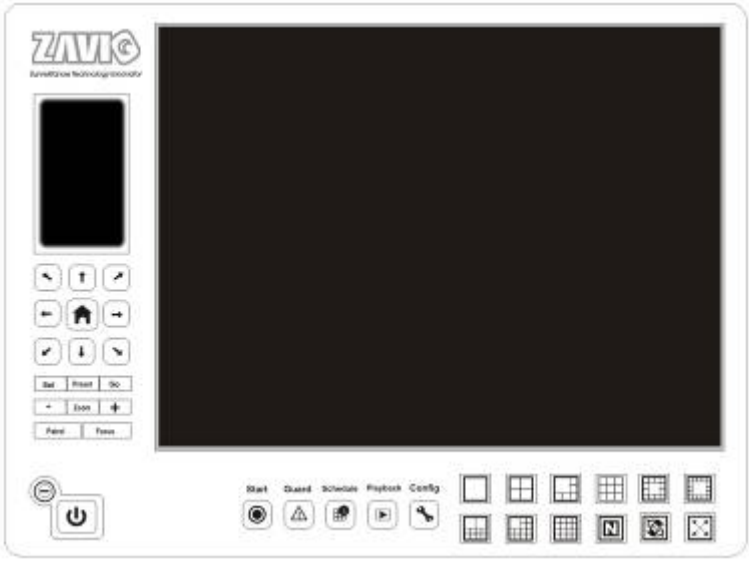
Step 5:
In the time table, recorded files are displayed in color bars. Highlight any color bars to select playback section. Click OK to return to Playback Console.

Step 6:
The recorded files are ready to view now.



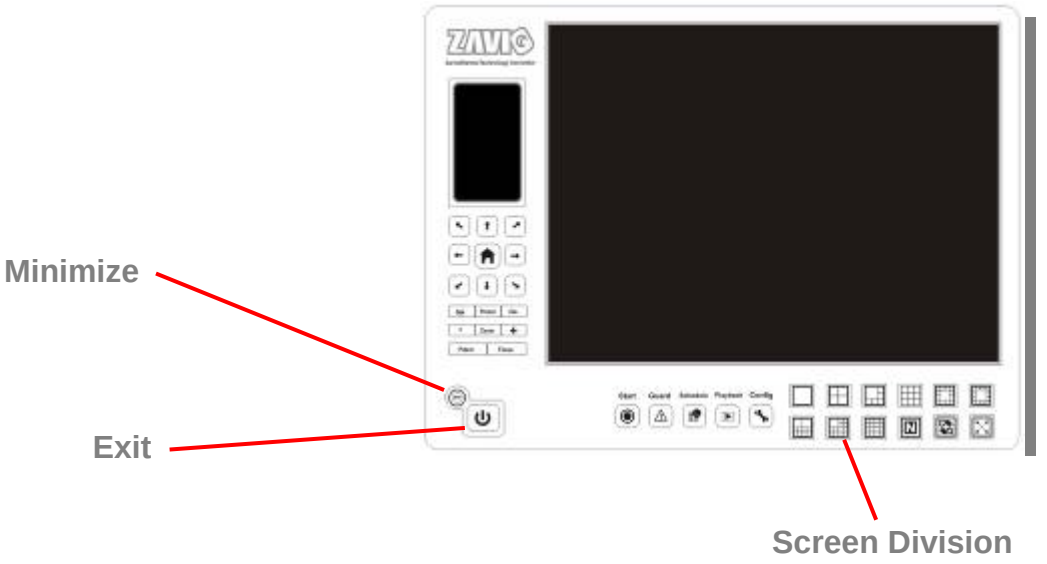
Step 4 Step 5

1. Main Console



This is the main operation system - to activate, schedule recording, setup smart guard and configure system setting.

1. Main Console



EXIT: Shut down the Surveillance System or log out current user.

MINIMIZE: Minimize the Main Console window.

SCREEN DIVISION: Allocate the sub-screen display by clicking on the desired layout icon. To switch to single camera display, double click on a particular sub-screen. Double click on the screen again to regain previous screen division layout.

Divide into 1 screen(s)	Divide into 4 screen(s)	Divide into 6 screen(s)	Divide into 9 screen(s)
Divide into 10 screen(s)	Divide into 13 screen(s)	Divide into 16 screen(s)	Divide into N screen(s)
Divide into 13 screen(s)	Divide into 17 screen(s)	Switch to Full screen	Rotate all screens

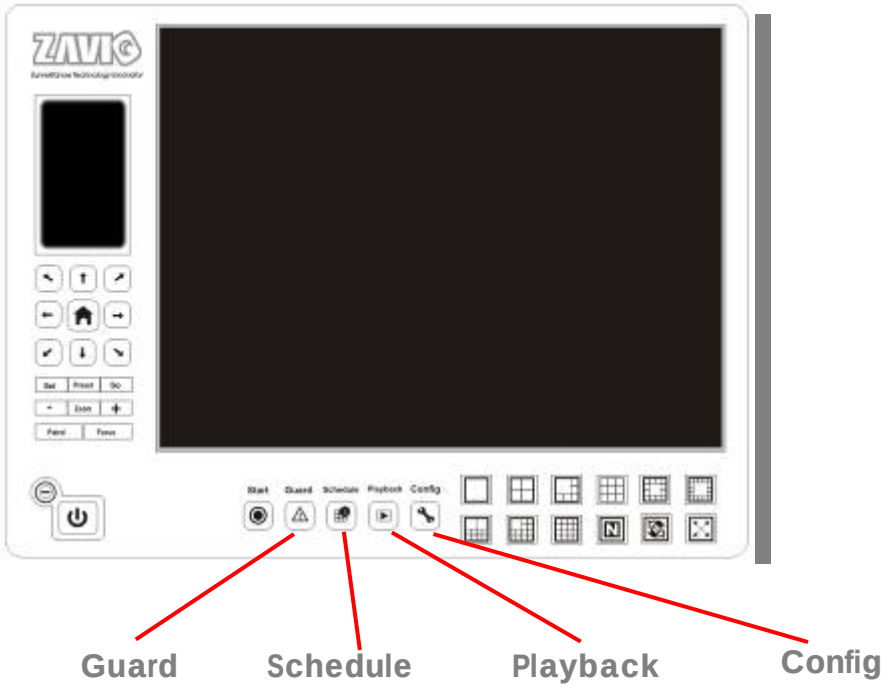
1. Main Console

1.1 Start

START: Click on the Start icon and select from the drop down menu to activate/ deactivate: (a) Recording Schedule System, (b) Smart Guard System, or (c) Counting Application. Select Start/Stop Monitor All to activate/ deactivate all the functions at once.

Note: When activating any of the monitor functions, system considers the current screen status as normal. Therefore, if you want to, for example, detect Missing Object, be sure the object needed to be protected is in its position at the moment you click Start button.

1. Main Console



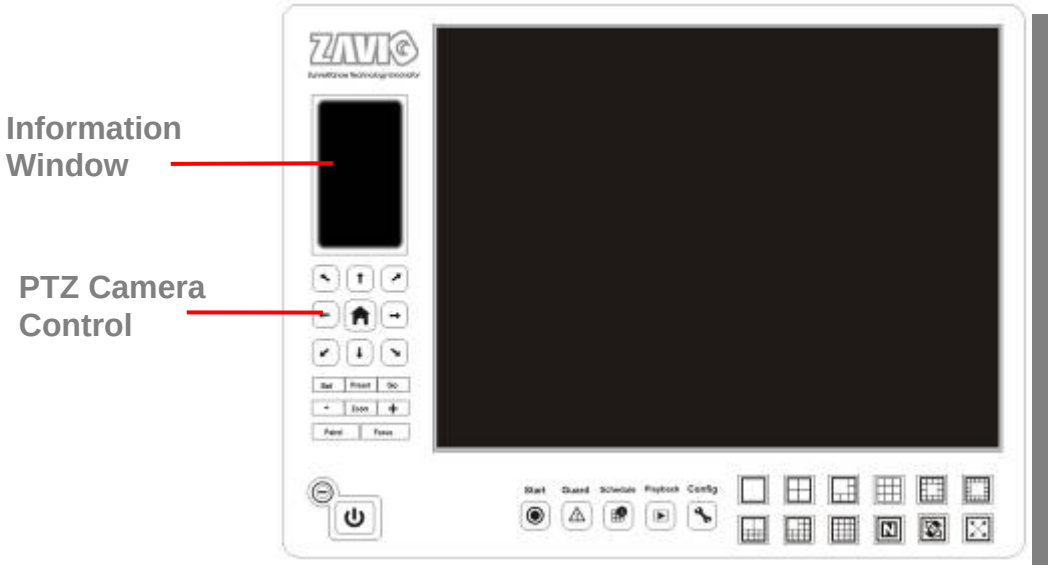
PLAYBACK: Click on the icon to get Playback Console. You can watch recorded video, search recorded video, adjust image of the stored data, save video/ pictures, print images, check log information and event records, and set up recording function configuration. See Playback on page 20 for detail.

SCHEDULE: Organize recording time schedule and setup recorder configuration. See Schedule on page 30 for detail.

GUARD: Add/edit type(s) of events that you want to detect; setup reaction(s) responding to events. See Guard on page 36 for detail.

CONFIG: Select from the drop down menu to modify general setting, save/ load configuration settings, start counting application, access log viewer and backup files, or setup network services. See Config on page 42 for detail.

1. Main Console



1.2 Information Window:
Display date, time, free HD space, CPU temperature, fan speed, and customized text. To customize Information about window's setting, go to Config > General Setting > General

1.3 PTZ Camera Control:
Control the movement of PTZ cameras. With cameras that support PTZ control, you can move, zoom, patrol, adjust the focus, and set preset points of the cameras.

1.3.1 Preset/ Go:
Adjust the camera view until you are satisfied. Click on the Set icon and set up the view as the preset point 01. Adjust the camera view again and set up the preset point 02. Repeat the process until finish setting up all preset points. You can enter any names you like to instead of the preset point 01, preset point 02, preset point 03.

Click on the Go icon and view the result of your setting.

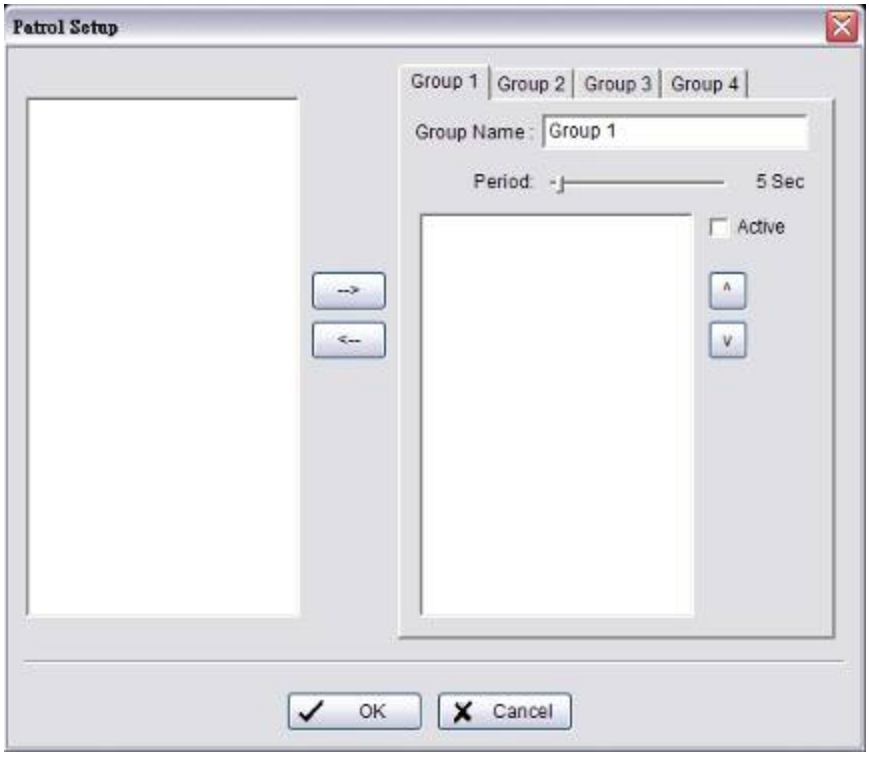
1.3.2 Zoom: Click on the + and – signs to zoom in and zoom out the view.

1.3.3 Focus: You can select to have the camera focused near or far. To focus near means objects that are closer will be clearer than the objects that are further away. On contrast, to focus far means objects that are further will be clearer than the objects that are closer.

Click on the Focus icon and select auto focus if you want the system to decide the focus point for you.

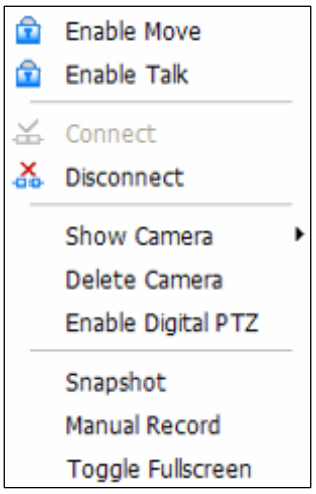
1.3.4 Patrol: Go to Patrol > Set Patrol to obtain the Patrol Setup dialog. From the left window, select the cameras that you would like to have in the patrol group. Align the cameras in order in the right window and adjust the time. Rename the group name if you want. After completing the setup, check the Active option, and then click OK.

You can setup up to four groups of auto patrol. To start or stop, click on the Patrol icon in the Main Console, and select Start Patrol or Stop Patrol.



1. Main Console

1.4 On Screen Menu



Right click on the camera screen and get the On Screen Menu, from which you can enable move, enable digital PTZ, and connect/ disconnect the camera.

1.4.1 Enable Move: With cameras that support PT function, by selecting the enable move function, you may adjust the camera's view by clicking on the display screen. To cancel this function, right click on the screen and select Disable Move.

Note: You can only work on current camera after clicking Enable Move.

1.4.2 Enable Talk: With cameras that support two-way audio, you may select enable talk to utilize the function.

1.4.3 Connect/ Disconnect: Right click on the display screen and select Connect/ Disconnect to modify the connecting status of the camera.

1.4.4 Show Camera: Select the camera to be displayed from the Show Camera Menu.

1.4.5 Delete Camera: Click on Delete Camera to remove a camera from the display screen. This does not delete the camera from the setting list.

1.4.6 Enable Digital PTZ: To enable the PTZ functions of the camera, select the Enable digital PTZ option. When enable digital PTZ, we can use mouse wheel to zoom in and zoom out on the camera.

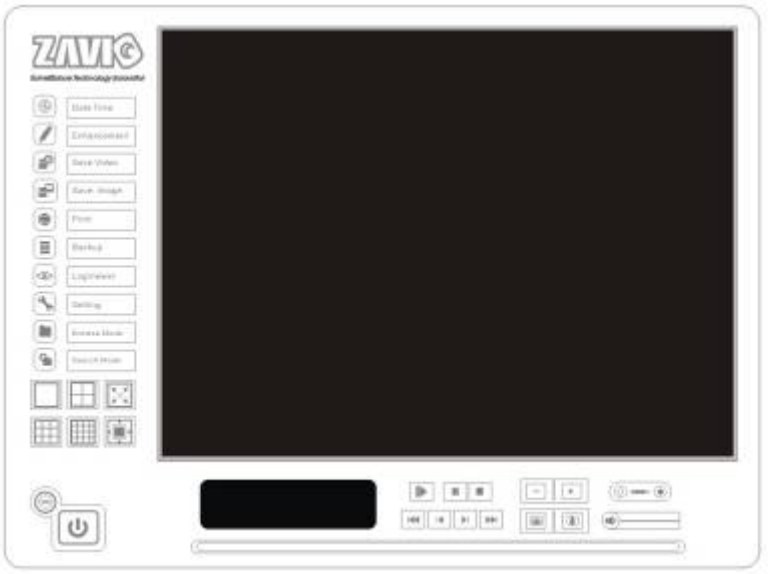
Note: Enable Digital PTZ is the option function in IP+ software not in IP software

1.4.7 Snapshot: Select the snapshot function to capture a specific video image immediately. You have the options to copy the image to the clipboard or to save it.

1.4.8 Manual Record: Start recording video by selecting manual record.

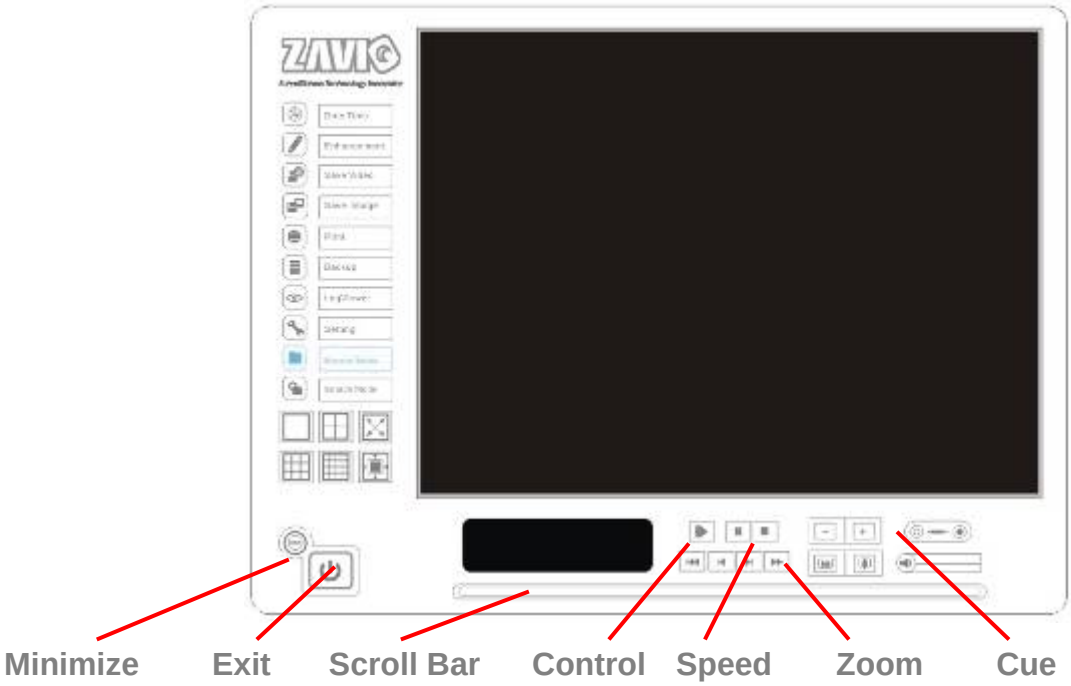
1.4.9 Toggle Full Screen: To view a specific channel with full screen.

2. Playback



Watch the recorded video, view and/or search for unusual events and recorded system information.

2. Playback



MINIMIZE: Minimize the Playback console.

EXIT: Shut down the Playback console.

SCROLL BAR: Indicate the status of the playing video; drag it to where you want to review.

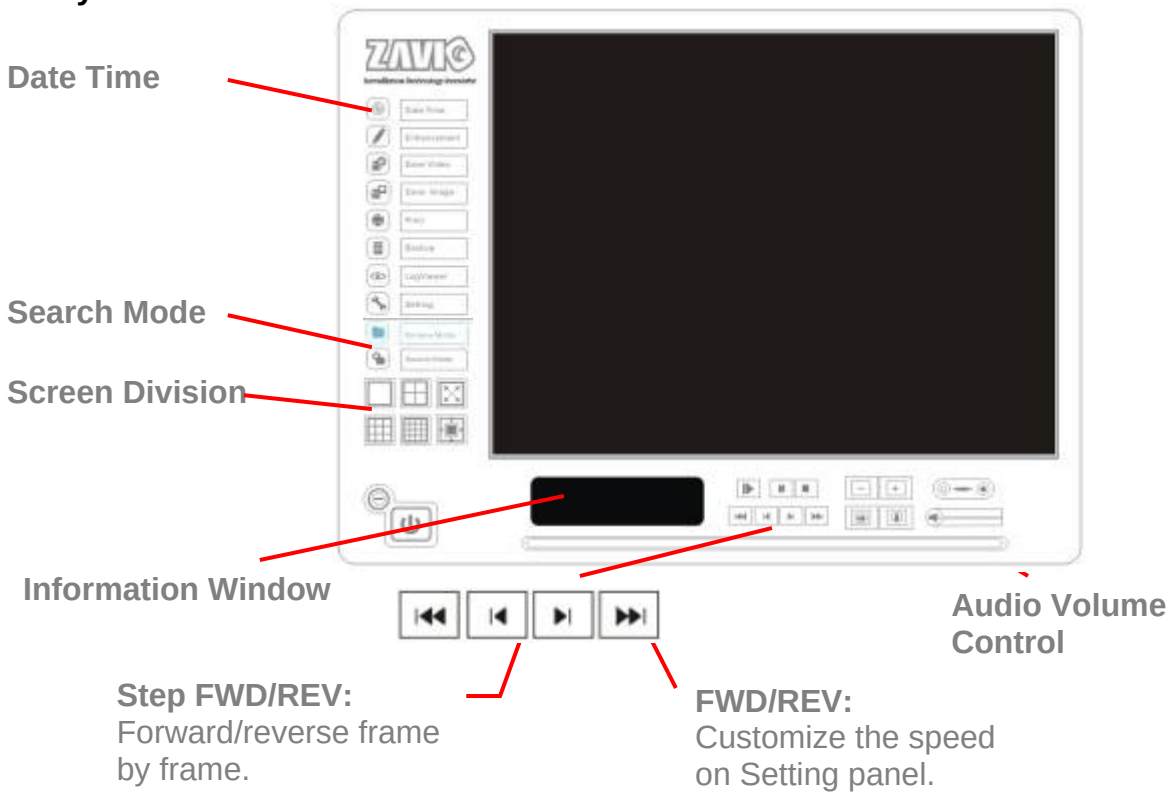
CONTROL: Play, pause and stop the video.

CUE: When playing video, click on the Cue In/ Cue Out icon at where you want to set as the starting/ ending point of a saved video clip. The Cue In and Cue Out time will be displayed on the Playback Information Window once they are set.

SPEED: Control the speed of the playing video. Click + to speed up and – to speed down.

ZOOM: Zoom in and zoom out. Get a close up view of the recorded video; move to the spot you want to view by dragging the screen.

2. Playback



2.1 Information Window:

Display video date and time, current video status, cue in/ out points' time, and speed.

2.2 Audio Volume Control:

Adjust the sound level.

2.3 Screen Division:

Allocate the sub-screen display by clicking on the desired layout icon. To switch to single camera display, double click on a particular sub-screen. Double click on the screen again to regain previous screen division layout.

2.4 Browse Mode:

Play the recorded video.

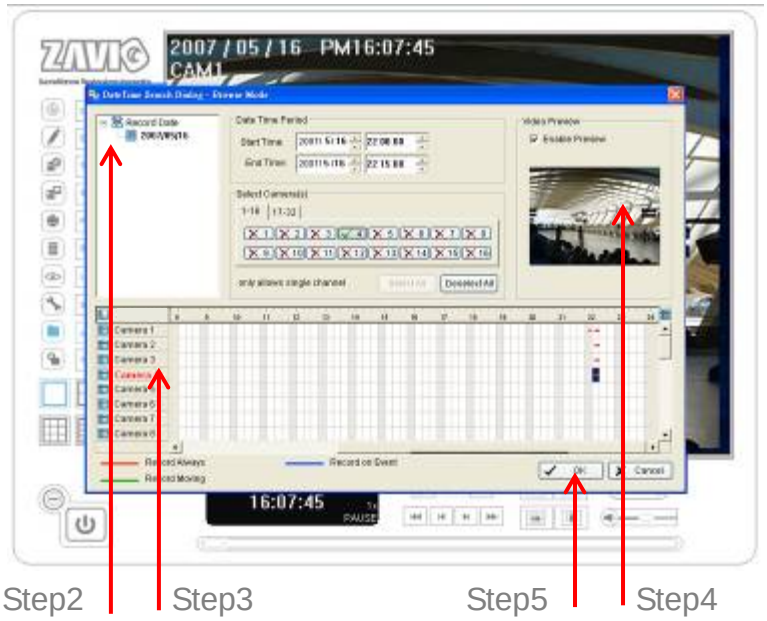
2.5 Date Time:

Click on Date Time button to access the Date-Time Panel and withdraw the video record that you want to review.

2. Playback

2.5.1 Date Time Panel

Withdraw the records:



Step 1: From the window at the top left of the Date-Time Panel, select the date you want to check, and you will see red/green lines show on the time table implying available recorded video.

Step 2: You can select the video clip you want to review by left-clicking and dragging to highlight the time period. Besides using the time-table, you can also indicate the time period of video that you want to see by using the Start Time and End Time in Date Time Period section.

Step 3: In Select Camera(s) section, select the camera(s)/channel(s) from which you want to see the video. You can select all cameras by clicking Select All button.

Step 4: Check Enable Preview to get the preview of the video you select.

Step 5: Click OK when you are done with the settings.

2.6 Enhancement

2.6.1 General Setting: Check the option and chose whether you want to apply the setting to all the channels or only to those currently shown on the screen.

2.6.2 Filter Setting

Visibility: Check the option and adjust the gamma value of the image to enhance the image and make it cleaner.

Sharpen: Check the option to activate the function. Move the slider control to the right to sharpen the image, to the left to soften it.

Brightness: Check the option to activate the function. Move the slider control to the right to make the image brighter.

Contrast: Check the option to activate the function. Move the slider control to the **right to increase** contrast.

Grey Scale: Check the option to show the record in grey scale mode so the image displays in black and white.

2.7 Save Video

Step 1: Click on the display screen to choose the camera display that you want to save as a video clip.

Step 2: Set up the cue in and cue out points; the cue in and cue out time will show on the information window.

Step 3: Click Save Video icon, choose the folder where you want to save the file at, enter the file name and click SAVE. You may export (i.e. save) the record with both audio and video or video only.

Step 4: Choose the compression format and then save the video.

2.8 Save Image

Step 1: Click on the display screen to choose the camera display from which you want to save pictures.

2. Playback

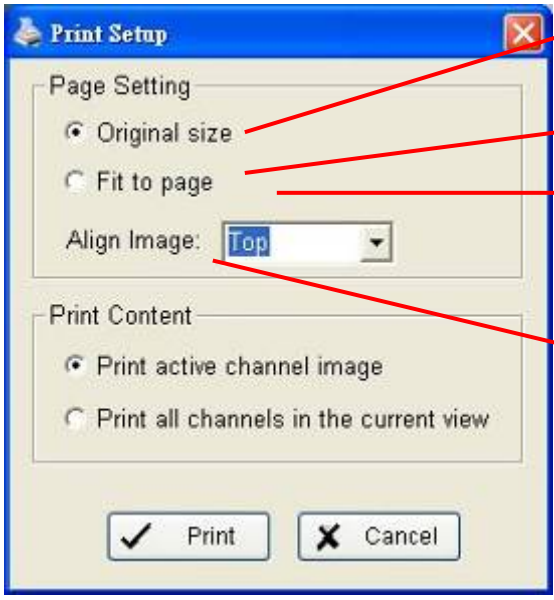
Step 2: Click Save Image button when the image you want is shown on the screen. You may click Pause to freeze the video, use Step Forward/ Step Backward function to find the picture(s) that you want to save.

Step 3: Choose the folder and the format of image (BMP or JPEG) you prefer and then click save.

Note: You may skip step 3 by pre-setting a folder and format that you want to save the images.

2.9 Print

Print the current image of the video you choose.



Print in original size: Select to have the image print in original size.

Fit the page: Select to have the image fit the page.

Align Image: Top, Center, or Bottom

Print Content: Print the image from currently selected channel or all the channels shown on the screen.

2.10 Backup

Different from Save Video, the Backup function saves everything from the Playback panel, including log information.

You can start a full function Playback Console and load the backup files into it on any PC with Windows operating system. This means you may monitor the real time video and work on the backup files on separate computers simultaneously.

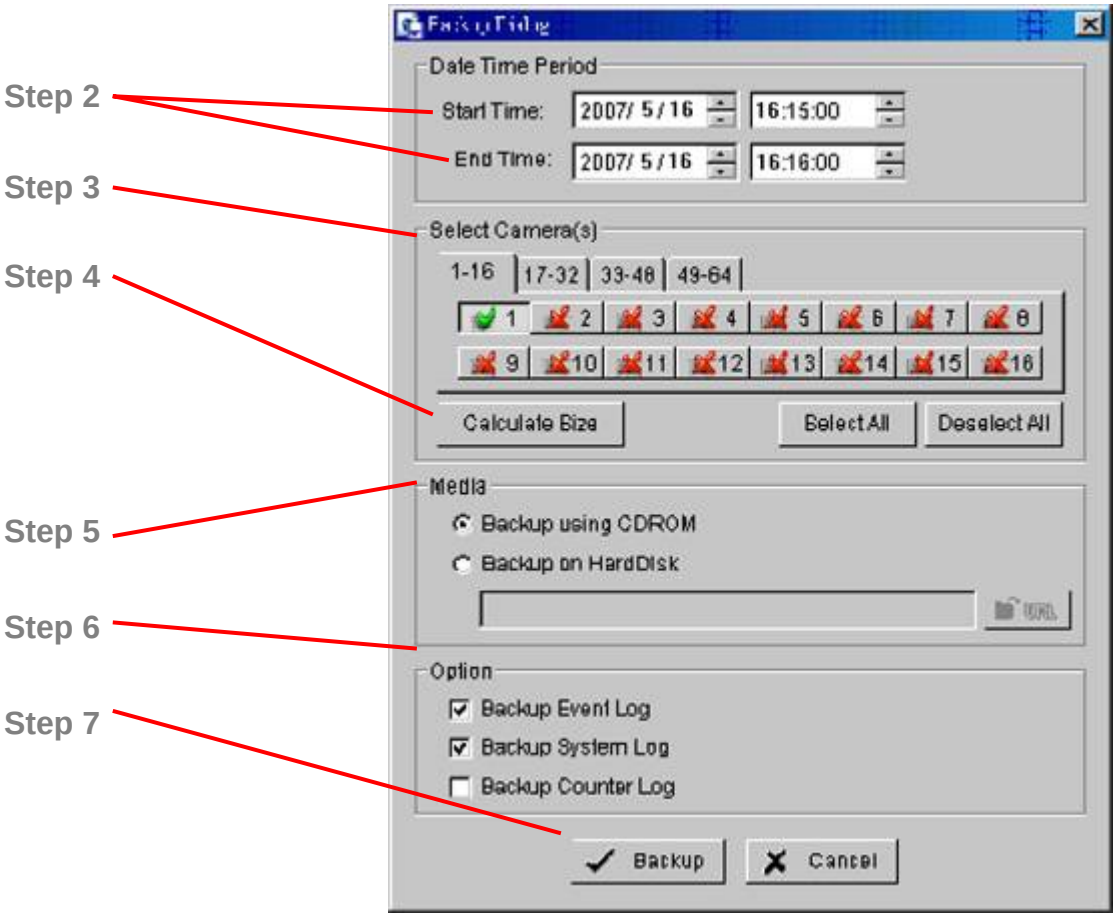
Step 1: Press the “Open Record” to select data and press “Backup”.

Step 2: You can adjust the Start Time and End Time you want to backup.

2. Playback

Step 3: You can adjust the Cameras you want to backup.

Step 4: You can calculate the size of the backup data.



Step 5: Select the directory you want to save the backup data.

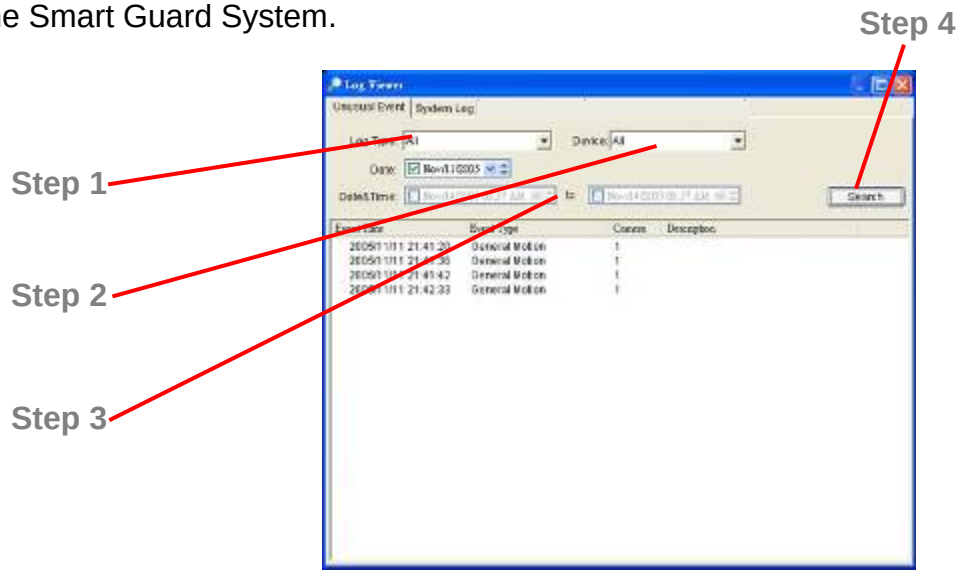
Step 6: Check the log you want to backup.

Step 7: Press the “Backup” to start backing up.

2. Playback

2.11 Log Viewer

2.11.1 Unusual Event: View the unusual event history that had been detected by the Smart Guard System.



Step1: Choose the type of events you wish to view or select “All” from the drop-down menu to view all types of events.

Step 2: Choose the camera channel you wish to view or select “All” for all the channels available.

Step 3: You can either view the events that happened on a particular date or during a given time period. To search and view unusual event on a particular date, check the option right next to “Date” and select a specific date.

You may also point out two different time points and search for unusual event happened during the period. Check the options in the Date &Time columns and enter the date and time.

Step 4: Click Search

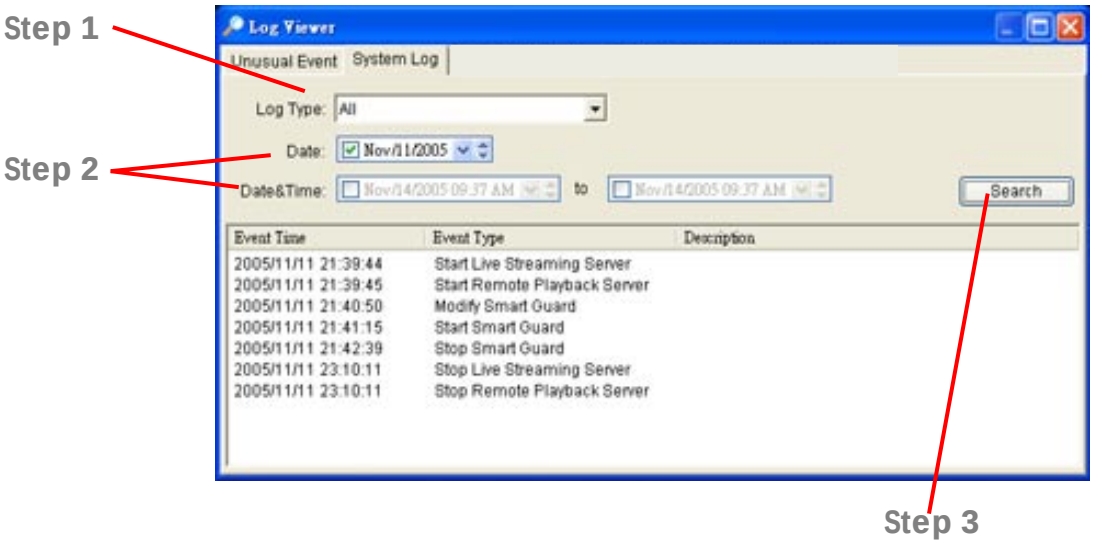
Note: When working with a video record,

2. Playback

1. Log Viewer will search for Unusual Event in the video record in Date & Time mode, start from the beginning to the end of the record, which is the default setting of the system.

2. A link will appear right next to each event time. By clicking on the link, the video will jump to the point where the unusual event takes place.

2.11.2 System Log: Select **Log Type** form the drop-down menu. There are total 11 types of log types, including:



1. Main Console Startup
2. Main Console Shutdown
3. User Login
4. User Login Failed
5. Start Schedule
6. Stop Schedule
7. Execute Recycle
8. Execute Backup
9. Enable Channel
10. Disable Channel
11. Start Smart Guard
12. Stop Smart Guard
13. Modify Smart Guard
14. Modify Schedule
15. Modify Configuration
16. Start Live Streaming Server
17. Stop Live Streaming Server
18. Modify Live Streaming Server
19. Start Remote Playback Server
20. Stop Remote Playback Server
21. Modify Remote Playback Server
22. IP Camera Connection Lost

Step1: Choose the type of event you wish the check or select “All” from the drop-down menu and view all types of events.

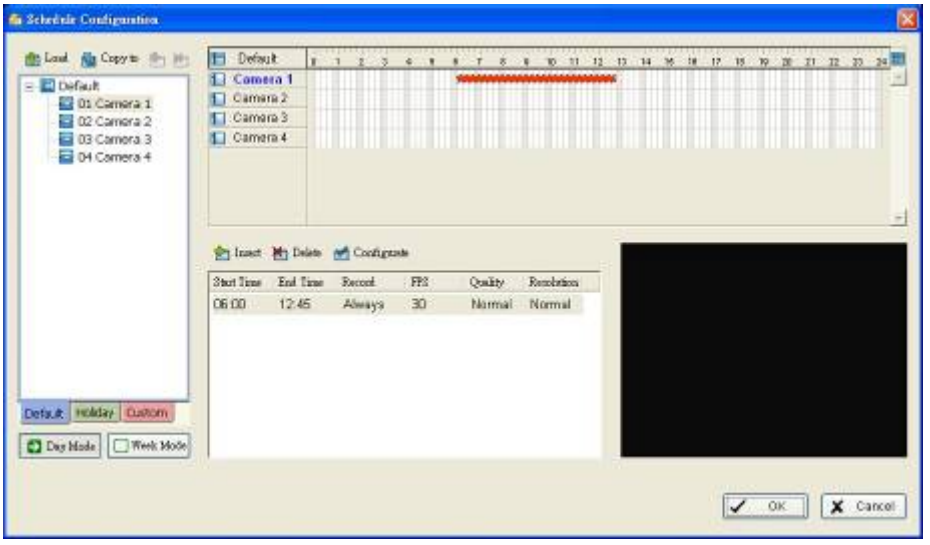
Step 2: You can either view the events that happened on a particular date or during a given time period. To search and view unusual event on a particular date, check the option right next to “Date” and select a specific date.

2. Playback

You may also point out two different time points and search for unusual event happened during the period. Check the options in the Date &Time columns and enter the date and time.

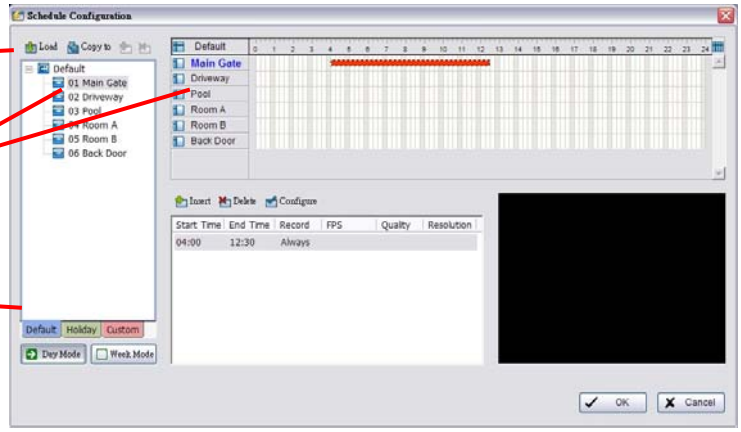
Step 3: Click **Search**.

3. Schedule



Click on the Schedule icon on the Main Console and set up the time duration for video recording on the schedule configuration panel.

3. Schedule



3.1 Day Mode

Schedule the cameras to turn the recorder on and off at the same time every day according to your setting.

To setup the time schedule for each camera, you may
1. **Load** the preset modes or
2. **Insert** a new schedule manually

3.2 Load Preset Modes

Click on the **Load** icon for the drop-down menu.

Regular Mode: Video recording 24 hours a day with the setting of 30 FPS (frames per second), Normal video quality and Normal resolution.

Office Mode: Video recording from 8 am to 8 pm (08:00 – 20:00, shown on the red bar in the Schedule Configuration panel) with 30 FPS, Normal video quality, and Normal resolution.

Shop Mode: Video recording from 10 am to 10 pm (10:00 – 22:00) with 30 FPS, Normal video quality, and Normal resolution.

High Security Mode: Video recording 24 hours a day with the setting of 30 FPS, the highest video quality, and High resolution.

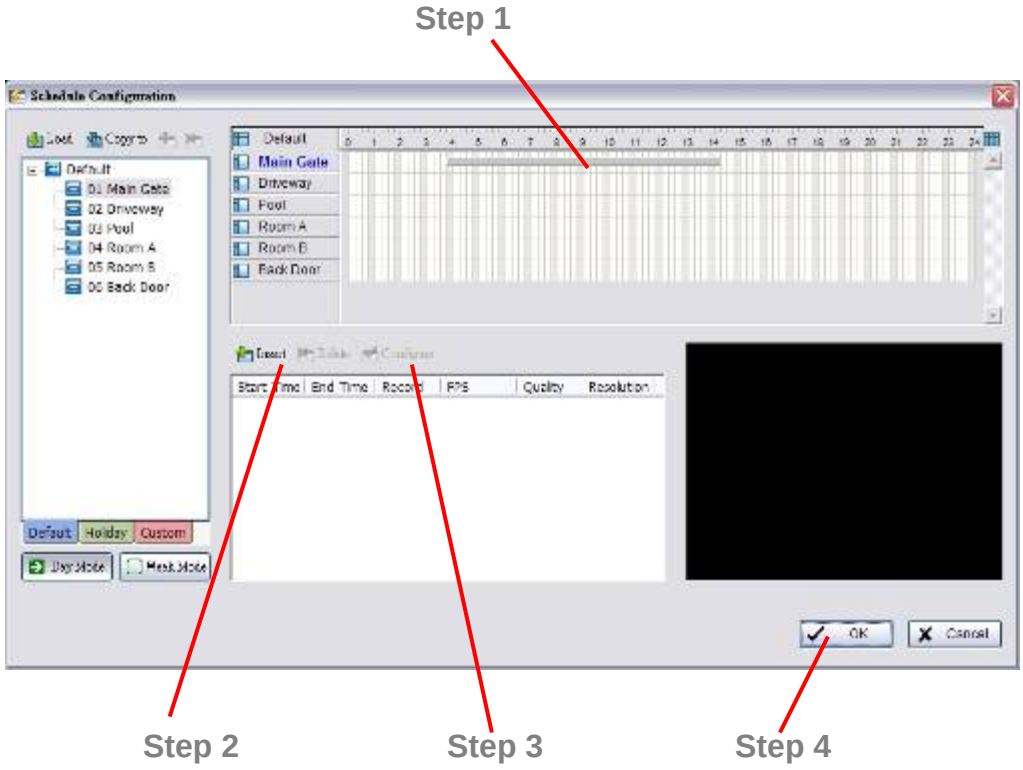
Disk Saving Mode: The system will start recording only when a motion is detected on the screen, 24 hours a day (shown on the green bar in the Schedule Configuration panel), with the setting of 30 FPS, Normal quality, and Normal resolution. You can adjust the sensitivity, interval, and area of motion detection in the Schedule Configuration.

3. Schedule

Minor Mode: The system will start recording only when a motion is detected on the screen, 24 hours a day (shown on the green bar in the Schedule Configuration panel), with the setting of 15 FPS, Low quality, and Low resolution. You can adjust the sensitivity, interval and area of motion detection in the Schedule Configuration.

3.3 Insert a New Schedule Manually

Step 1: Left-click and draw the bar you want to the time table. The scheduled time will show as a grey bar.



Step 2: Click the **Insert** icon and add a new schedule in the Regular Mode, i.e. to record video during the time period you set with 30 FPS, Normal video quality, and Normal resolution.

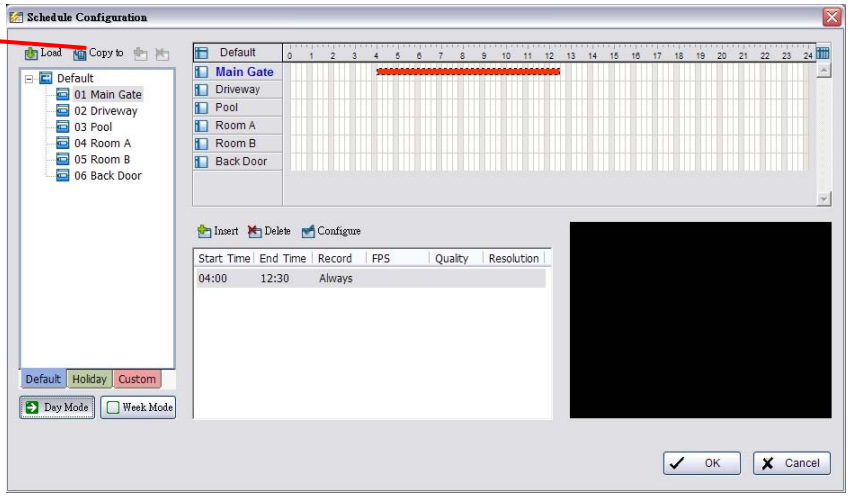
Step 3: Change the setting if wished by clicking on the **Configure** icon (See page 42) or double click the **schedule information**.

Step 4: Click OK.

3. Schedule
3.4 Copy Schedule

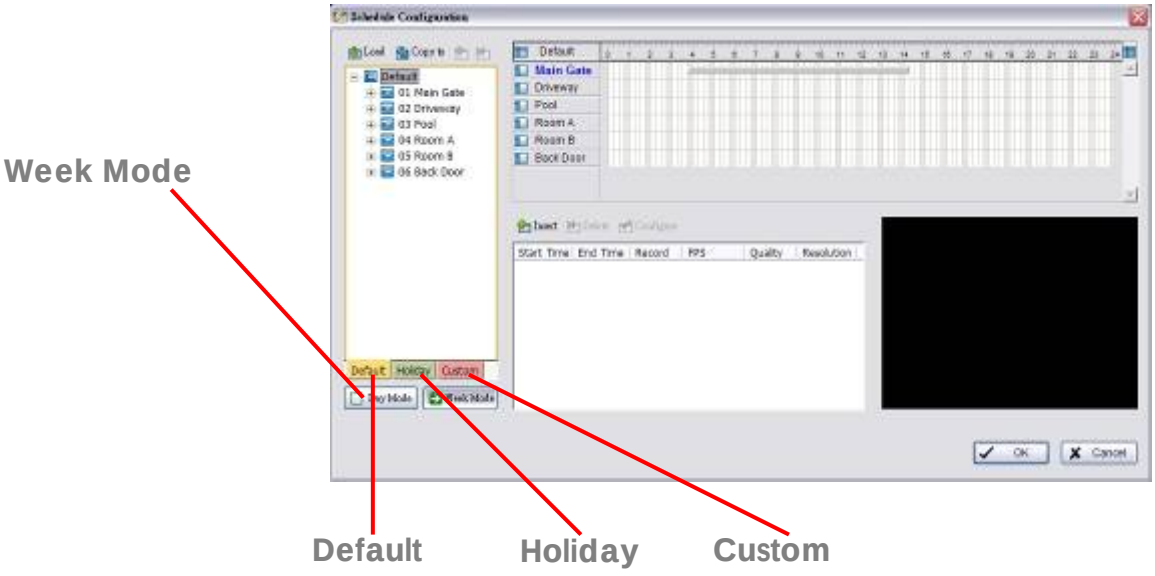
You may set up the schedule for each channel/camera by repeating the process above, or simply apply the setting of a single camera to all the others.

Copy To



3.5 Week Mode

Schedule the cameras for each day of the week differently. In addition, you may assign extra holidays under the Week Mode.



3.5.1 Default: Follow the same process to setup the schedule for every day in a week.

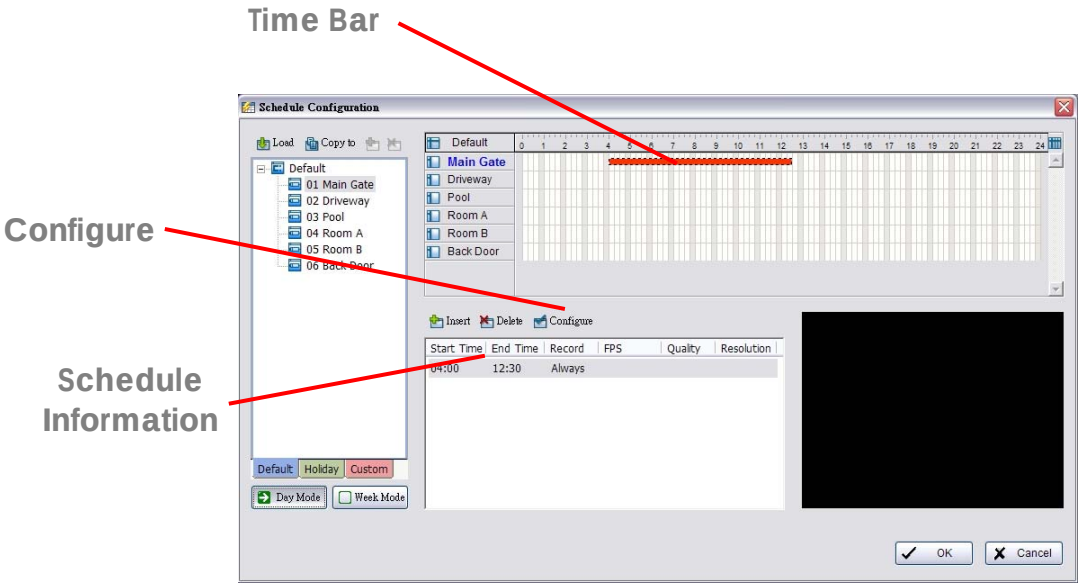
3.5.2 Holiday: You may assign holidays where the system will work according to the setting of Sunday.

3.5.3 Custom: You can assign a particular date(s) on which the system will work according to a special schedule(s) different from the others.

3.6 Adjust the Scheduled Setting

You can manually change the setting at any time after you insert or load a period of schedule.

Option 1: Move the cursor to the **Time Bar** and change the length or move the bar sideway to change the start and end points.

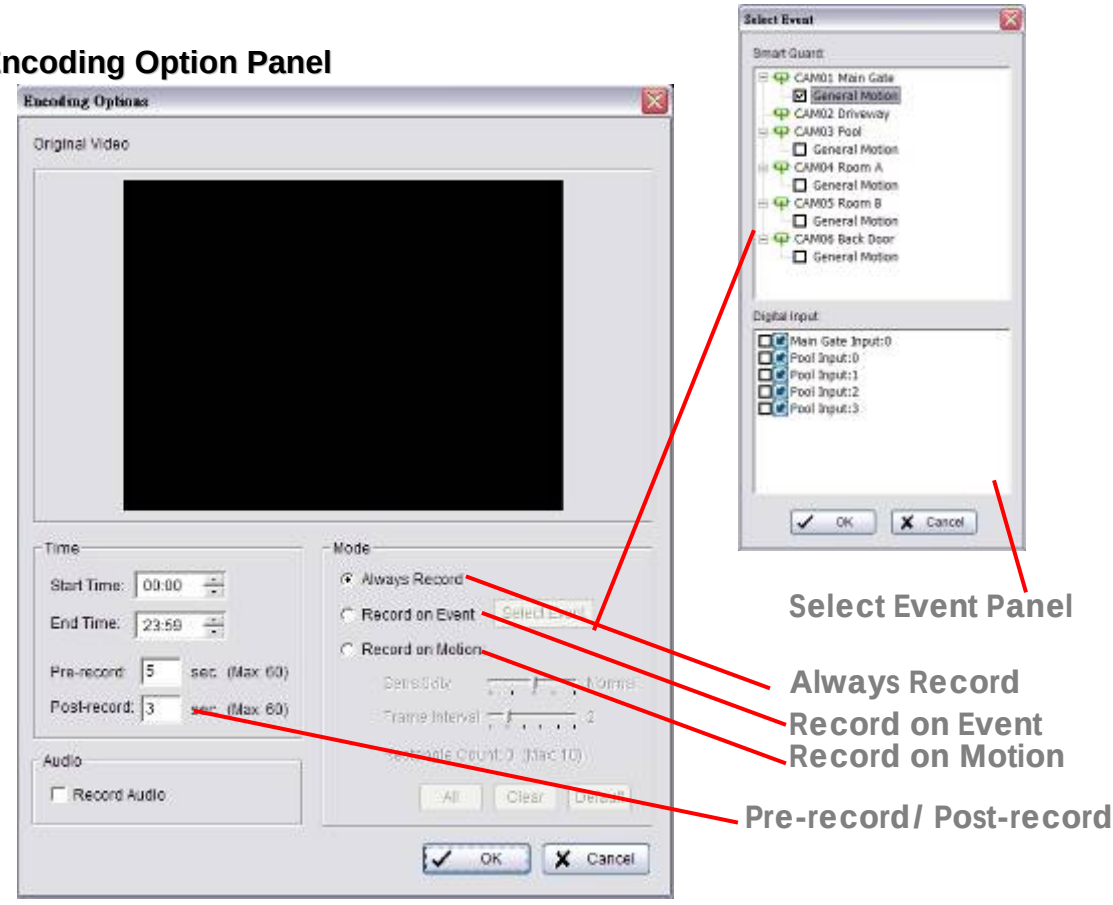


Option 2: Click on the Configure icon or double click on schedule information on the screen (highlighted in blue) to obtain the Encoding Option panel (see page 42) and change the setting as wished.

Configure: Click on the configure icon to obtain the Encoding Option panel.

3. Schedule

3.7 Encoding Option Panel



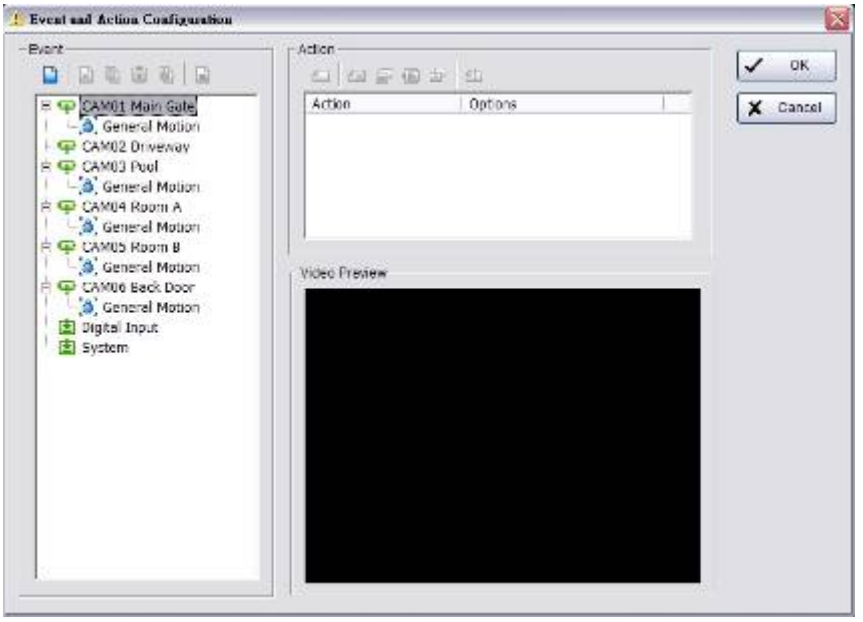
3.7.1 Always Record: Select this option to record the video at all time.

3.7.2 Record on Event (Unable in bundle version): Select this option to obtain the Select Event panel. From the Smart Guard list, check the box of the camera(s) that you want to trigger the recording action. Click OK to complete the setting.

3.7.3 Record on Motion: Select this option to start recording when there are motions detected. To detect Motion, you have to define a detection zone. Left-click and drag the mouse to draw a detection zone. You may define more than one zone on the screen by repeating the same process. User can also click on “All” button to select the entire detection zone. You may adjust the sensitivity and the frame interval.

3.7.4 Pre-record/ Post-record Time: The pre-record/ post-record function saves the recording data accordingly. For instance, to set up a 5 second pre-record time means the system will start saving the recording data 5 seconds before the event happens.

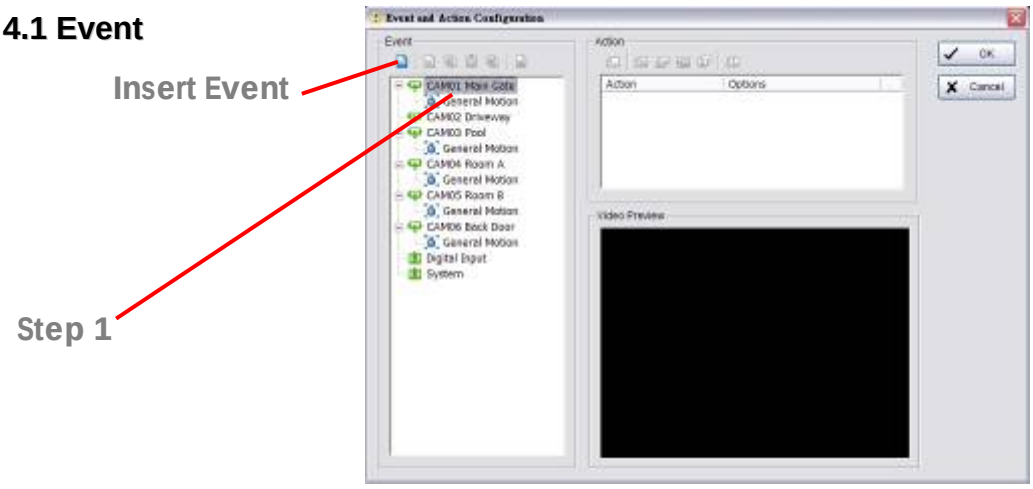
4. Guard



Click on the Guard button on the Main Console to start the Event and Action Configuration panel. You need to specify an event to be detected as well as to set up an action with which the system will take when the specified event is detected.

4. Guard

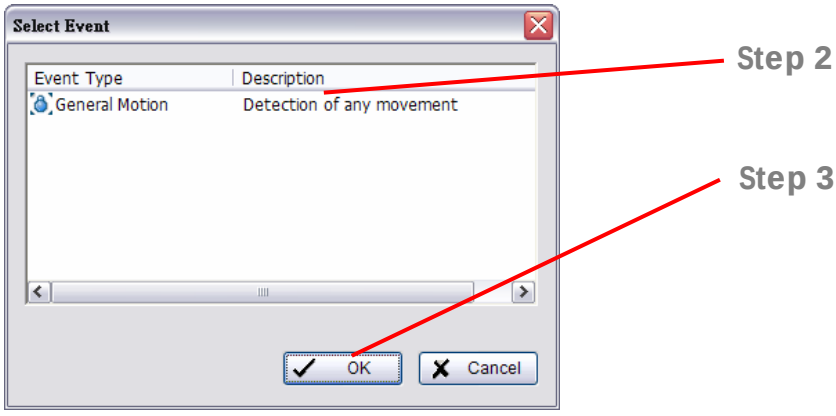
4.1 Event



There are three sources of events: Camera (video image), Digital Input (device connected to you PC) and System (condition of your hardware). You can assign multiple events by following the instructions below.

4.1.1 Assign a Camera Event

Step 1: Select a channel from the camera list and click the insert event icon. .

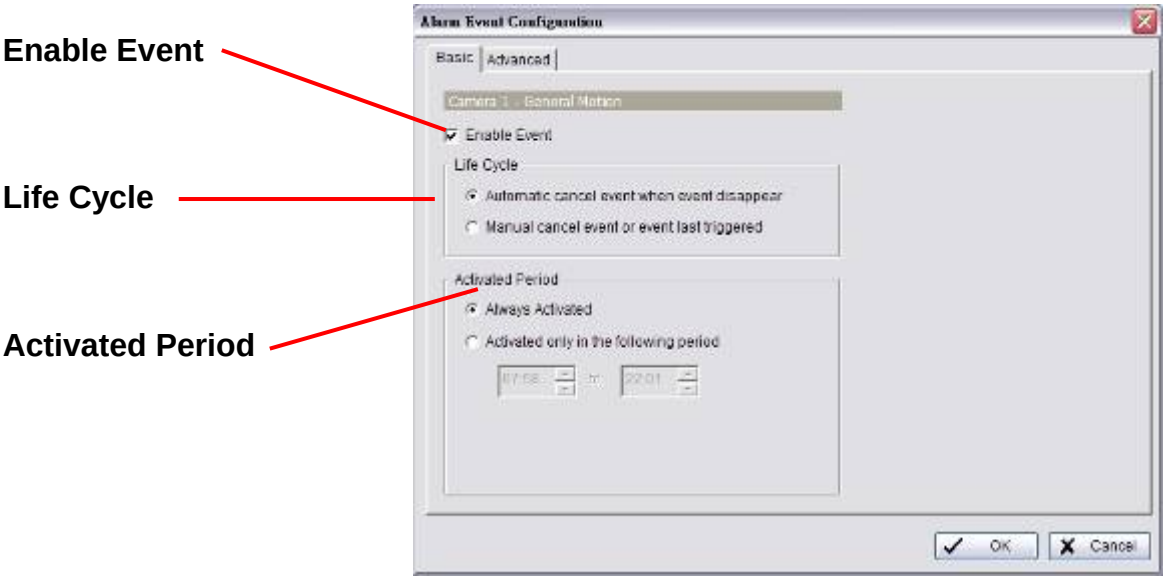


Step 2: Select the event you want on the Event Type list (for bundle version, only General Motion event is available), and then click OK.

Step 3: Configure the setting of the Event Type. See the following instructions.

4.1.2 Event - General Motion

Detect any movement in the defined detection zone.



Basic Setting

Enable Event: Check the box to activate.

Life Cycle

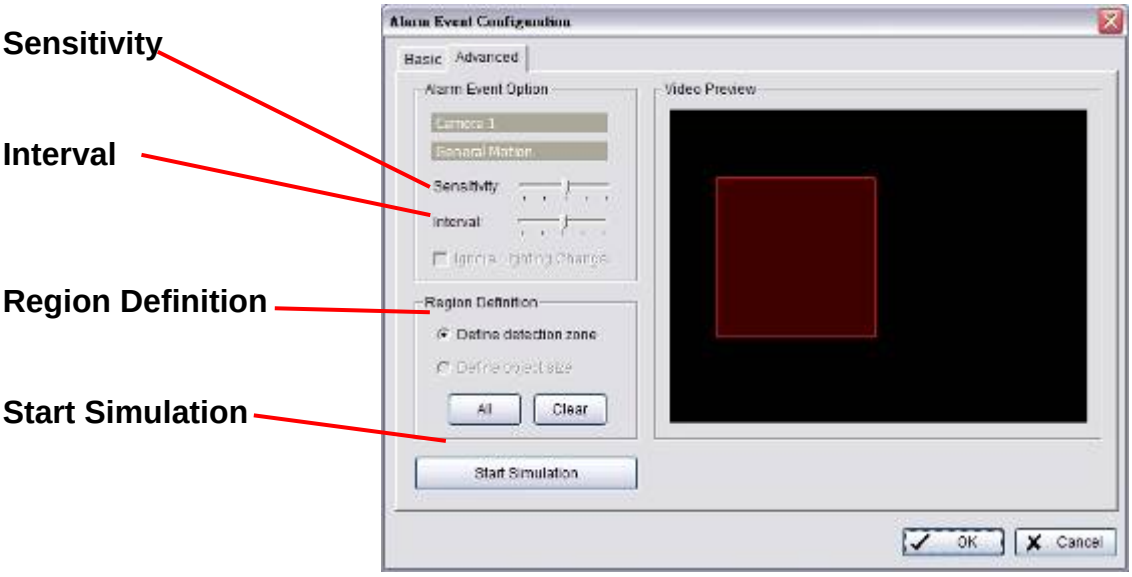
Automatically cancel event when event disappears: the alarm/action will be off once the abnormality is fixed or ends.

Manually cancel event or event continues triggered: The alarm/action will continue until being canceled from the Main Console (Start>Open Event Report>Cancel All Events). The user currently not at the seat watching the screen will be notified by the alarm.

Activated Period: You can set up the system to react during a certain time period; for example, office hours

4. Guard

Event - General Motion



Advanced setting

Sensitivity: Click and move the slider control to the **right to increase** sensitivity so that a relatively small movement will trigger the alarm. Move the bar to the **left to reduce** the sensitivity of movement detection. Set up an appropriate Sensitivity value will reduce the chance of false alarm. For example, you can lower the Sensitivity to avoid the alarm being triggered by a swinging tree in the breeze.

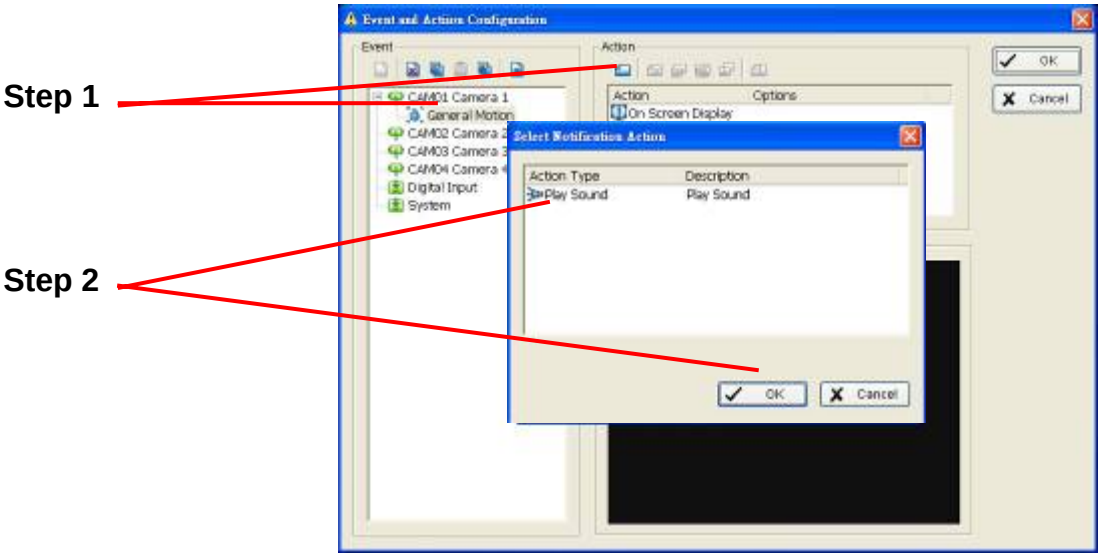
Interval: Click and move the slider control to the **right to increase** interval time so that the alarm will only be triggered when the movement lasts longer. Move to the **left to reduce** the interval time.

Region Definition: To detect General Motion, you have to define a detection zone. Left-click and drag the mouse to draw a detection zone. You may define more than one zone on the screen by repeating the same process. User can also click on “All” button to select the entire detection zone.

Start Simulation: Click the Start Simulation button and test the function on the preview screen.

4.2 Action

Insert Action: To setup actions responding to an unusual event.



Step 1: Choose an event and click the “Insert Action” icon.

Step 2: There are 6 types of actions: On Screen Display, Play Sound. Select the action you want on Action Type list and then click OK.

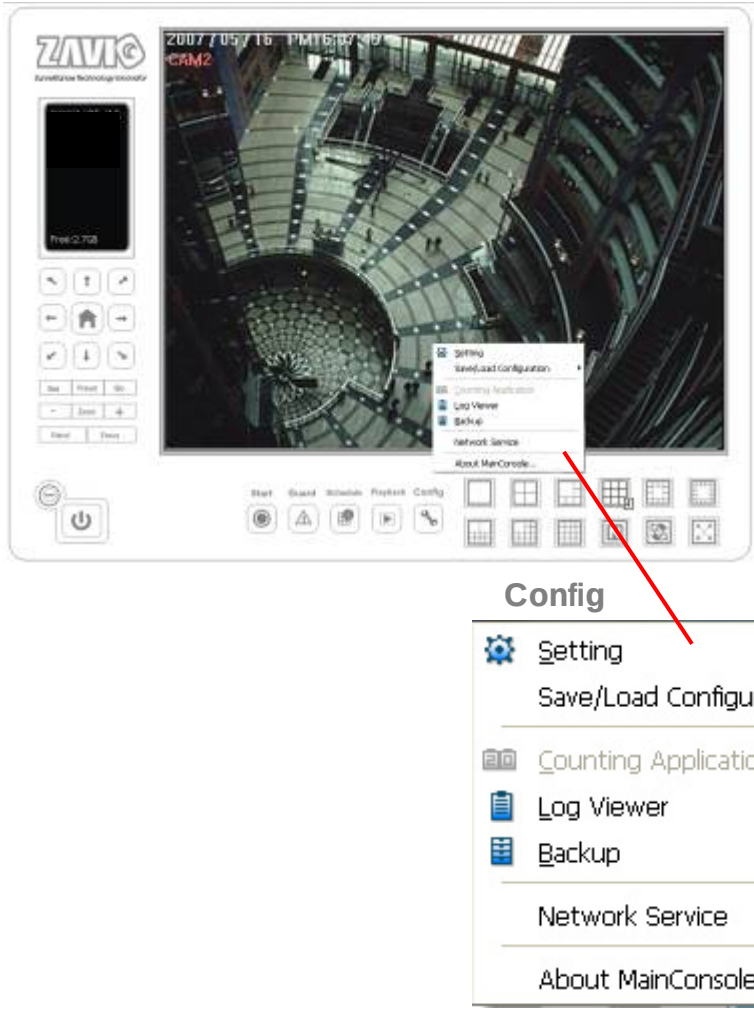
Step 3: Configure the setting of the Action Type if needed.

4.2.1 Action - Action Type

On Screen display: A red warning will be flashing on the screen of Main Console, indicating which type of unusual event is detected.

Play Sound: Sound alarm warning. Choose a Wave file (.wav) and the system will play the sound as alarm when an unusual event is detected.

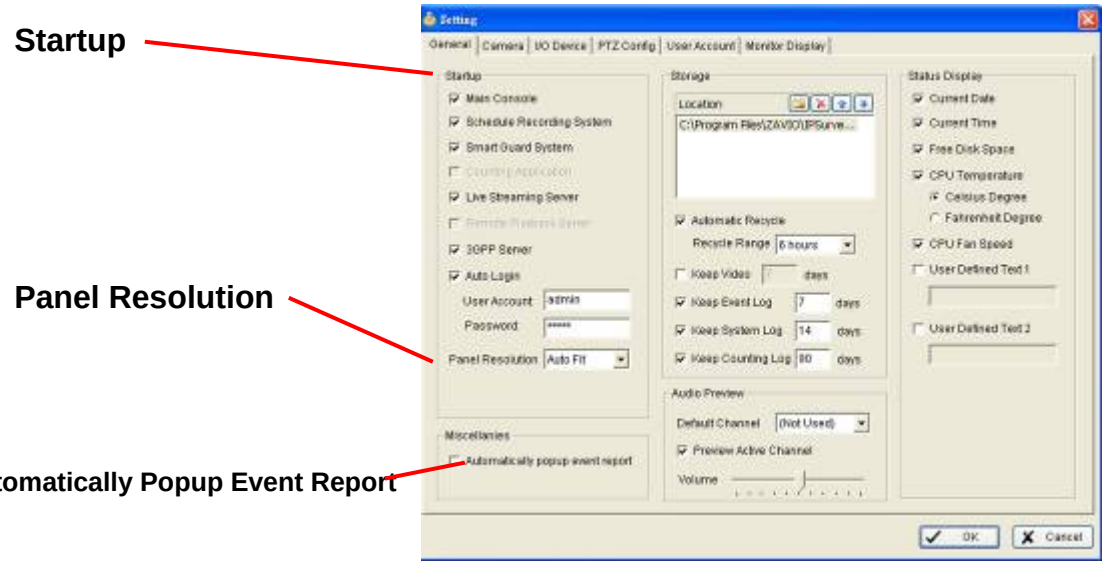
5. Configuration



Modify the setting, log viewer, backup, and network services. Click on the Config icon, select from the drop-down menu and open the Configuration panel.

5. Configuration

5.1 Setting – General



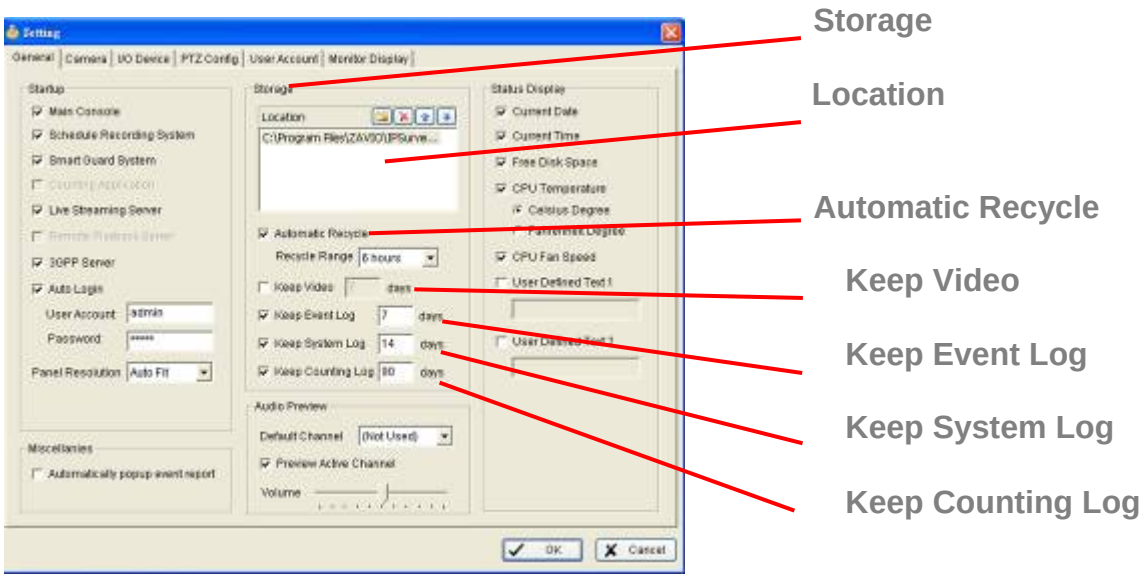
5.1.1 Startup

Check the box and activate the functions as the system starts. You may start/stop the function in Monitor panel on the Main Console.

Panel Resolution: Set up the resolution of the control panel. You may select Auto Fit to have the system choose the best one for you.

5.1.2 Automatically Popup Event Report: Event report dialog automatically popup when events been detected. Make sure to stop Smart Guard System before you modify the setting, otherwise the modification will not take place.

5. Configuration



5.1.3 Storage

Location: Assign the default folder for the system to store all data files.

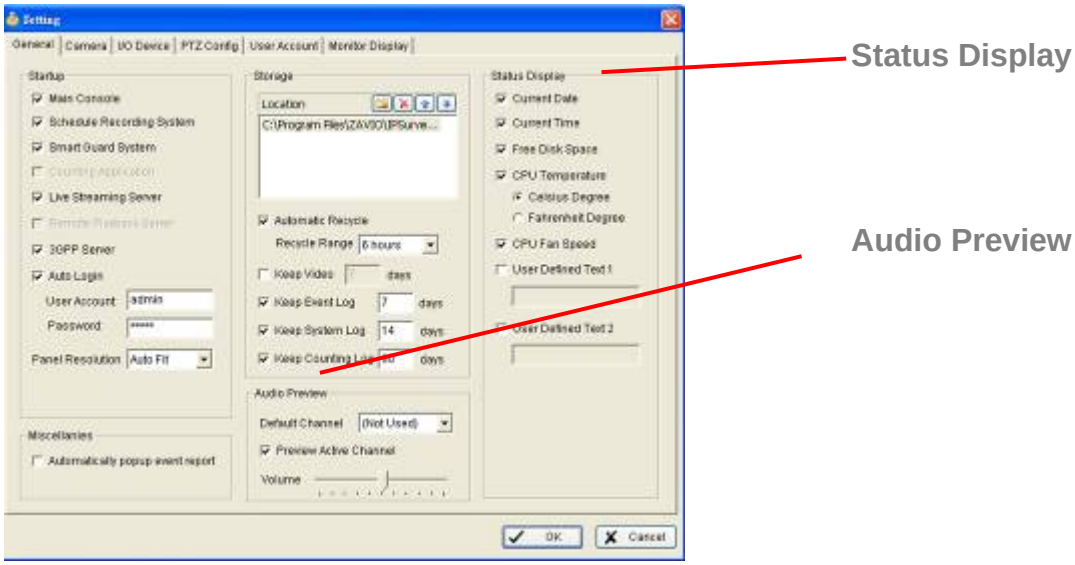
Automatic Recycle: The system will automatically delete out-dated data to save storage space.

Keep Video: Delete the video records that are older than the number of days set.

Keep Event Log: Delete the event log data that is older than the number of days set.

Keep System Log: Delete the system log data that is older than the number of days set.

Keep Counting Log: Delete the counting application data that is older than the number of days set.



5.1.4 Audio Preview

Default Channel: Select the audio channel that you wish to hear from in "Default Channel.

Preview Active Channel: Check the "Preview Active Channel" option to hear the audio from selected video channel on Main Console. The default channel plays if the video channel isn't selected.

System plays the audio of default channel

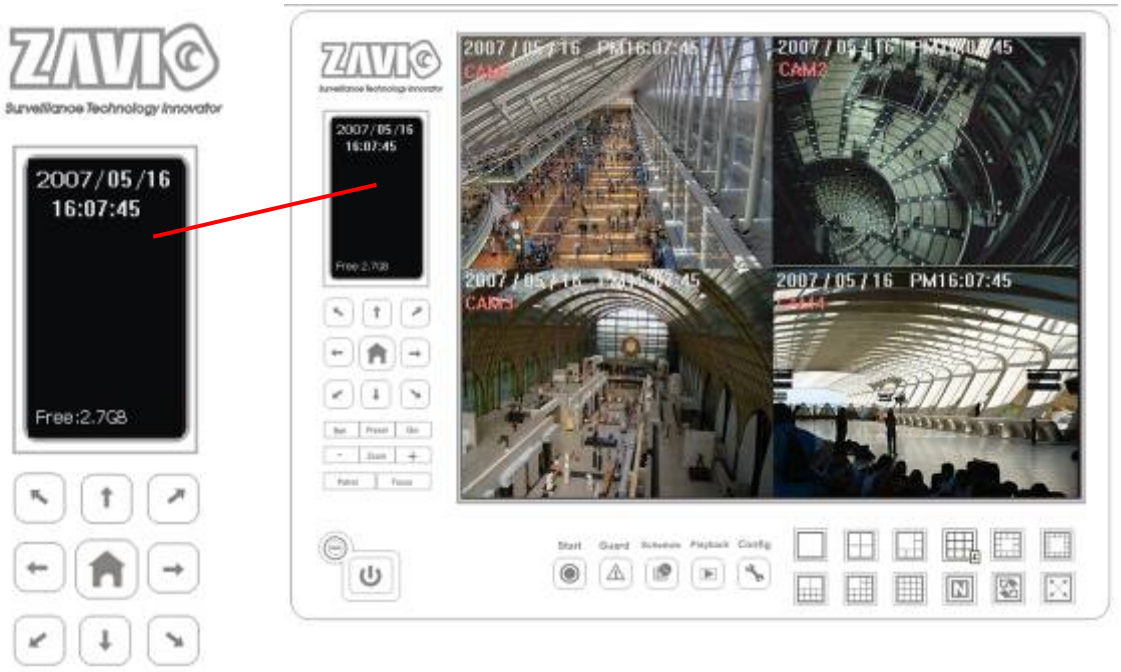
System plays the audio of left-top selected channel

Volume: Adjust the volume with the "volume bar."

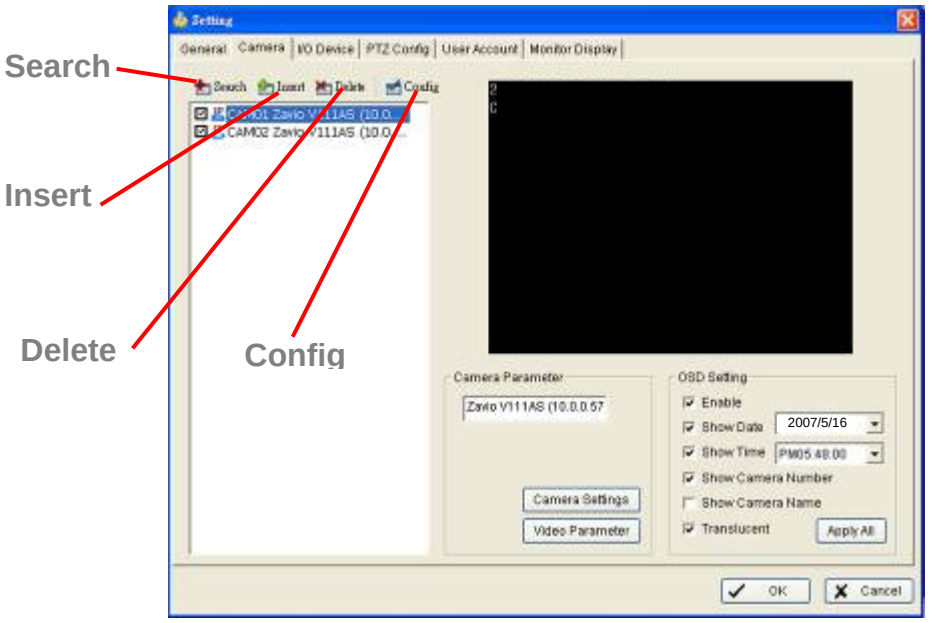
5. Configuration

5.1.5 Status Display

Check the boxes of the information that you wish to see in the information display window in the Main Console.



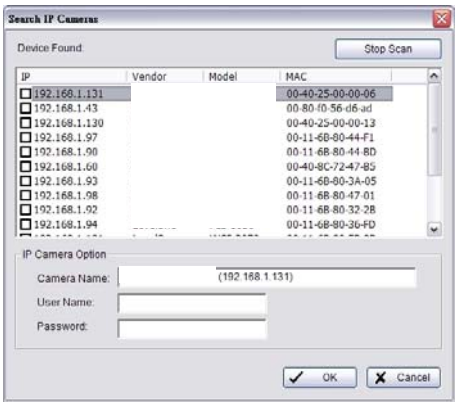
5.2 Setting - Camera



5.2.1 Add Camera

Four function buttons will be included in the Setting/Camera panel if you have our Hybrid Surveillance System license for IP camera.

Search: Click on the Search icon to obtain the Search IP Camera panel. The system will start scanning automatically once the panel is opened; feel free to stop scanning by clicking on the Stop Scan button.



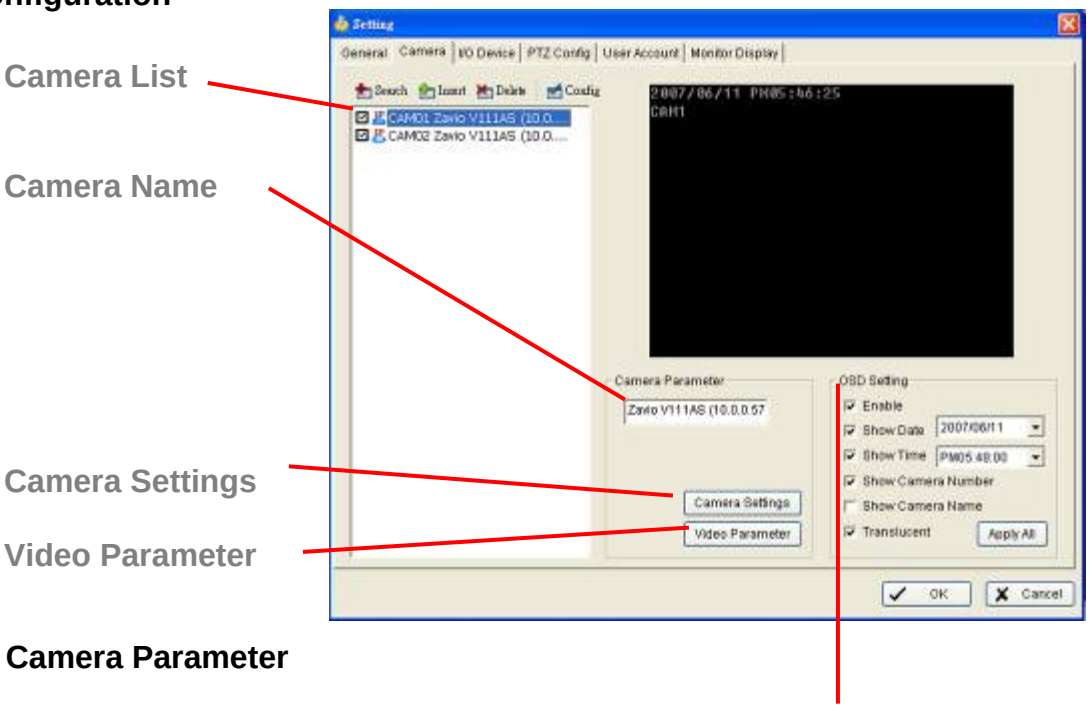
Fill in the user name and password for each IP add it to the camera list.

Insert: Click on the Insert icon to obtain the IP/Video Server Setting panel and add IP cameras to the list. See page 9 for details.

Delete: Click on the delete button to remove the selected IP camera(s) from the system. Click OK to finalize the modification.

Config: Click on the Config button to obtain the IP/Video Server Setting panel. You can modify the IP camera settings with the Setting panel. See page 48 for detail.

5. Configuration

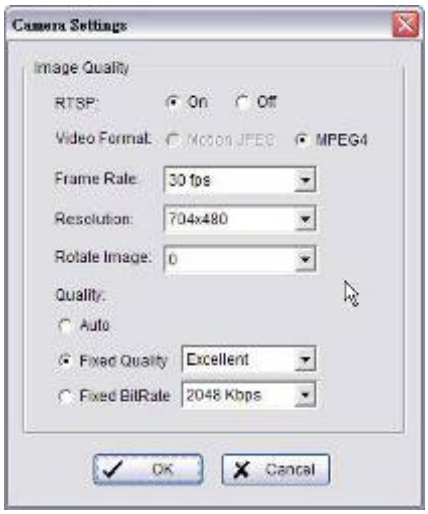


5.2.2 Camera Parameter

Camera List: The camera(s) connected to the system will show on the panel, click the name of the camera to adjust the setting.

Camera Name: Name the camera for your convenience.

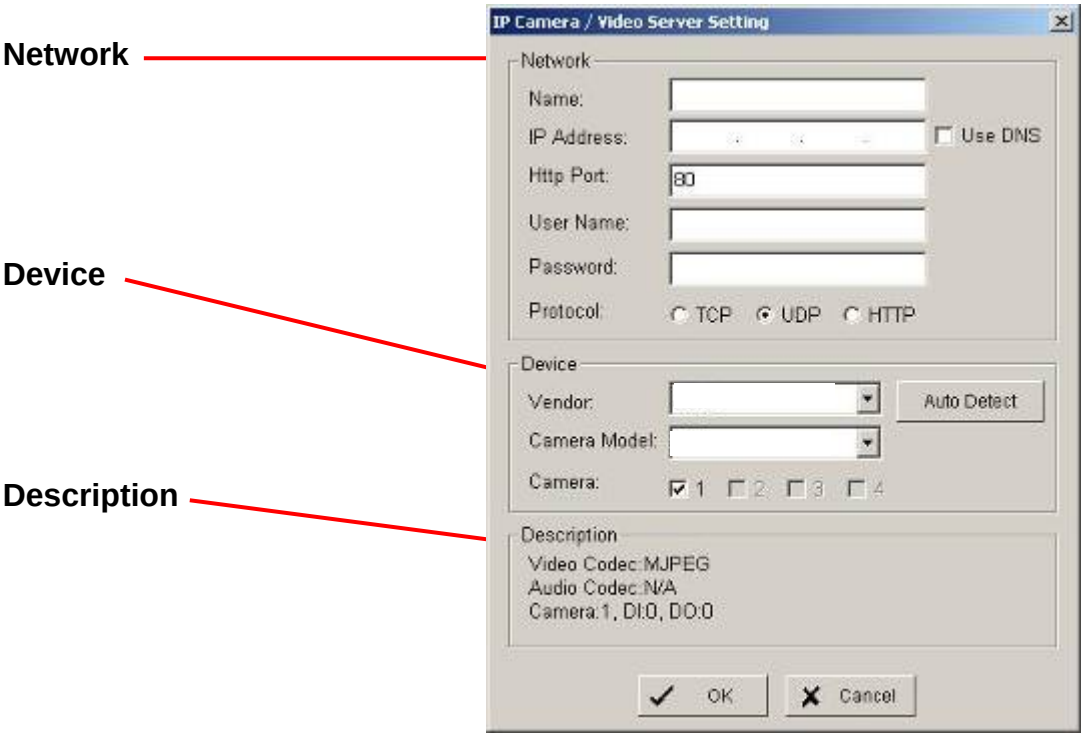
Camera Settings: Set the camera parameter offered by camera vendor.



Video Parameter: Adjusts the video's brightness, contrast, saturation, and color hue values.

5.2.3 OSD Setting: Select the information that you wish to see in the on-screen display, or the sub-screen of the camera.

5.2.4 IP Camera / Video Server Setting Panel



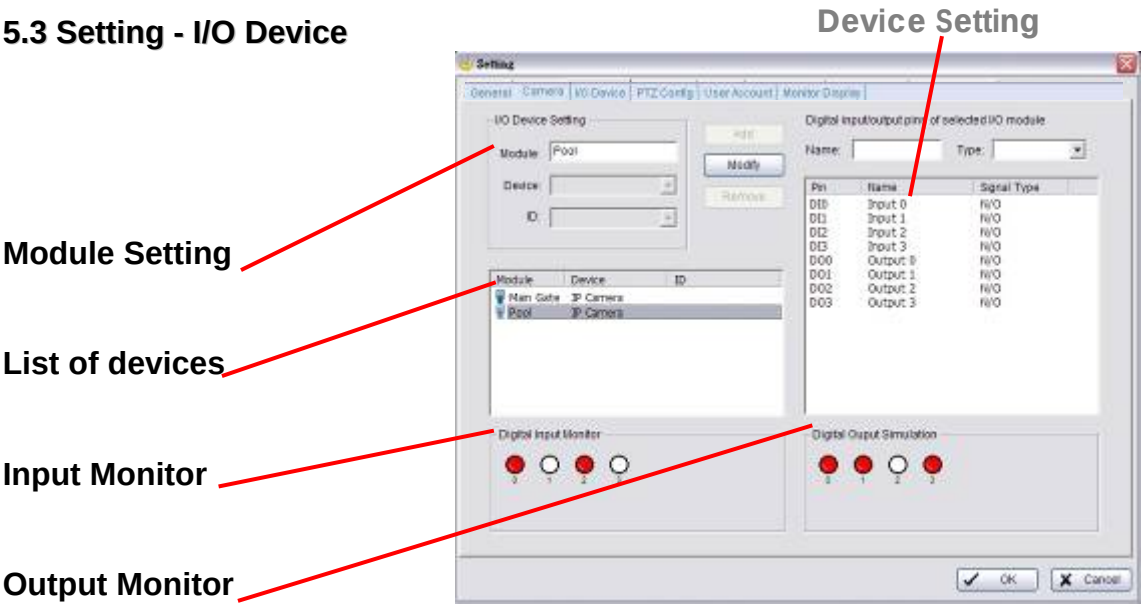
Network: Fill up the Network field (including Name, IP Address, Http Port, User Name, Password and Protocol) referring to the instruction provided by the camera manufacturer. Check “Use DNS” to use domain name instead of IP address.

Device: Choose the IP camera manufacturer from the drop-down menu. Click on “Auto Detect” and the model name will show in the box.

Description: Show information of the IP camera.

5. Configuration

5.3 Setting - I/O Device



Module Setting: Name the module device and ID that has been connecting the digital input/output device(s) to your system.

Device: This column displays the device(s) already installed to the system.

ID: Select the number of the I/O port to which you plug the ribbon cable.

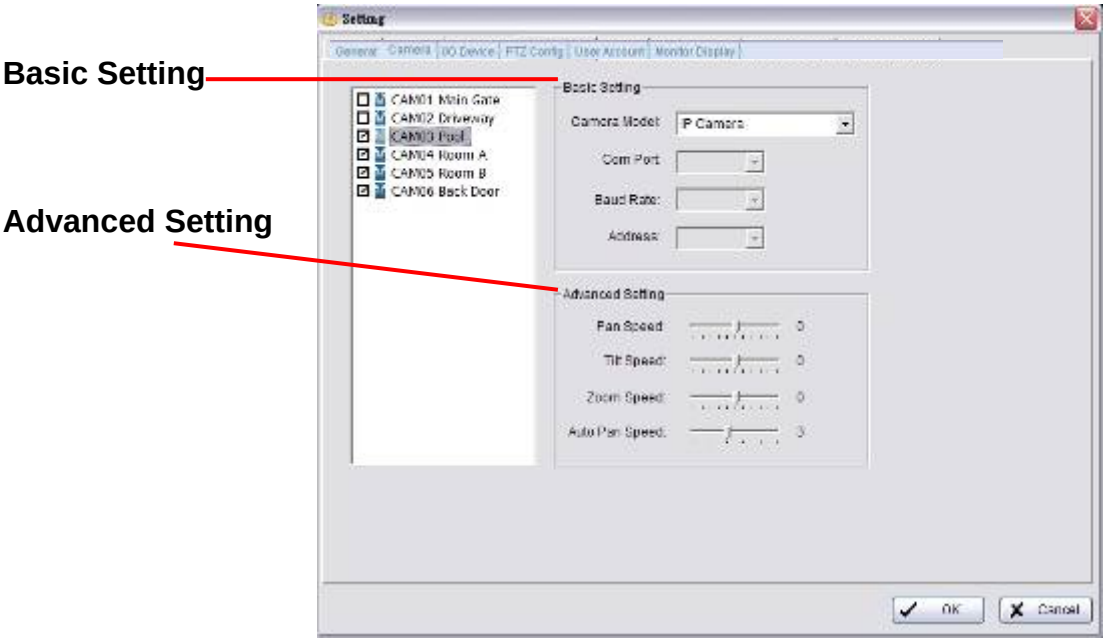
Input Monitor: The device(s) is turned on if the dot is in red. By triggering the digital input device, the related icon will light up. This is used to check if the device is correctly connected or not.

Output Monitor: The device(s) is turned on if the dot is in red. By clicking on the icon, you may trigger the digital device connecting to the system. This can be used to test if the output device is correctly connected.

Device Setting

Name: Insert the name of the device (input and output).
Type: Select the device type from the drop-down menu.
N/O: Normal Open.
N/C: Normal Close.

5.4 Setting - PTZ Config



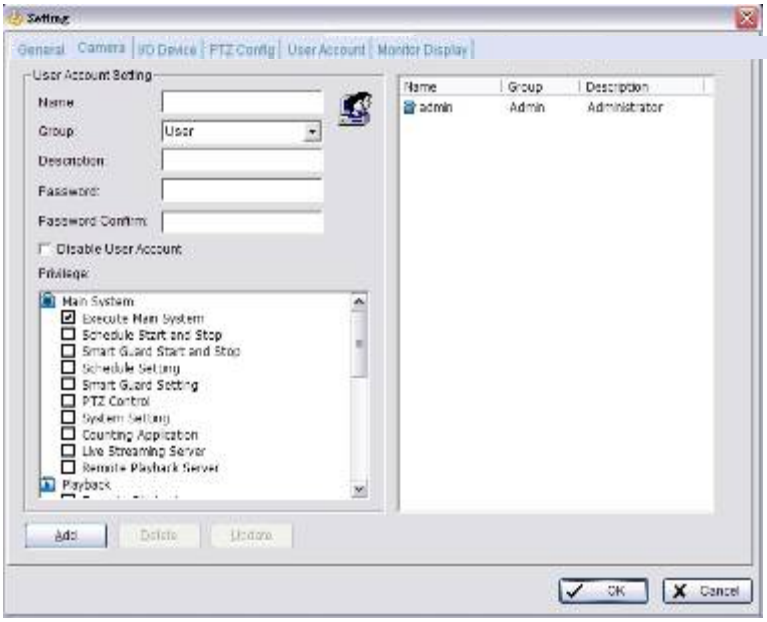
Install PTZ cameras following the instruction of the camera manufacturers. A PTZ camera is usually connected to the PC with RS-485/RS-422.

Check the box on the camera list to activate the PTZ control function of a PTZ camera.

Basic Setting: Select the camera model, com port, baud rate, and address according to your PTZ camera.

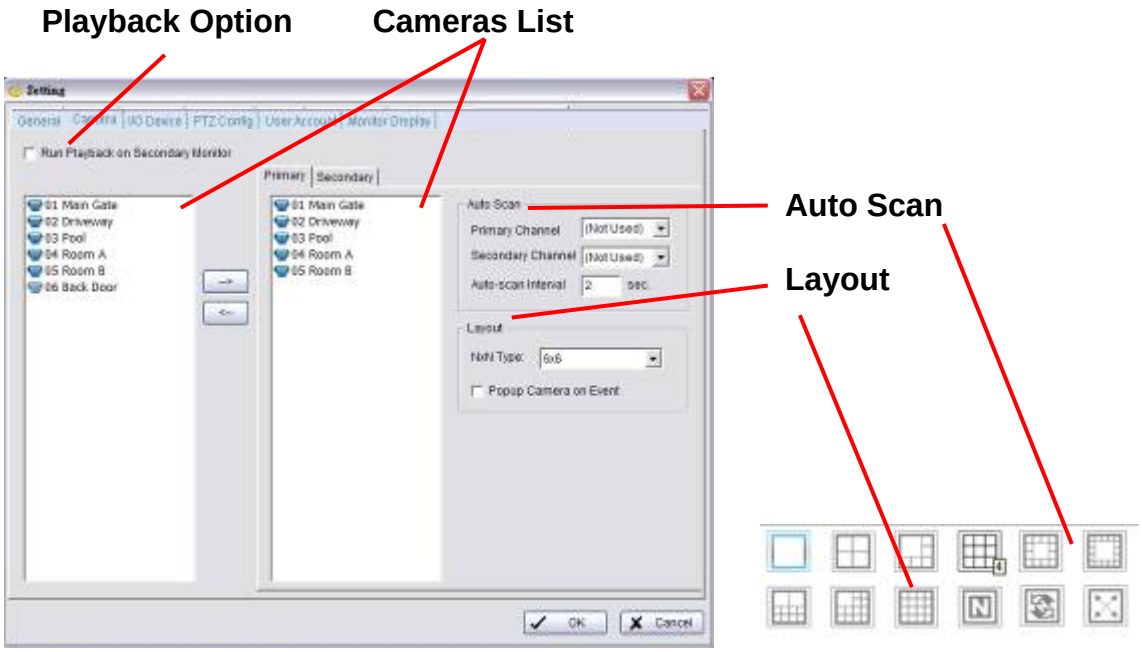
Advanced Setting: You may setup the pan speed, tilt speed, zoom speed and auto pan speed. Adjust the settings by dragging the bars.

5. Configuration
5.5 Setting - User Account



User Account: The administrator may manage the user accounts here. From the list on the right, highlight each account and modify the privilege setting.

5.6 Setting – Monitor Display



Playback Option: Execute Playback on the secondary monitor by checking the box. Make sure to adjust the display setting of your computer in advance to avoid

system error.

Cameras List: The left side displays a list of all cameras; modify the cameras shown on primary/ secondary monitor in the right window.

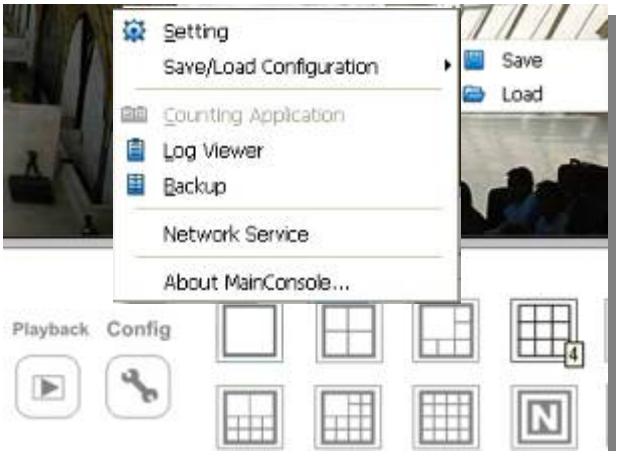
Auto Scan: Activate auto scan to rotate the channels/ cameras on the display screen.

For instance, you may select to show only 4 sub-screens on the main console while having 16 channels connected to the system. With auto scan function, you will be able to see all 16 channels by turns. You can set up a primary channel that will always be on the screen and a secondary channel that has secondary priority.

Layout: Choose the number of divisions for NxN division on the Main Console screen.

5.7 Save/ Load Configuration

The Save/ Load Configuration function allows system users to save any specific setting as a cfg (config) file. You may save up several different cfg files at any time.



Save Configuration: To save a specific setting, go to Config > Save/ Load Configuration > Save. In the popup window, type in the file name and then save it as a cfg file.

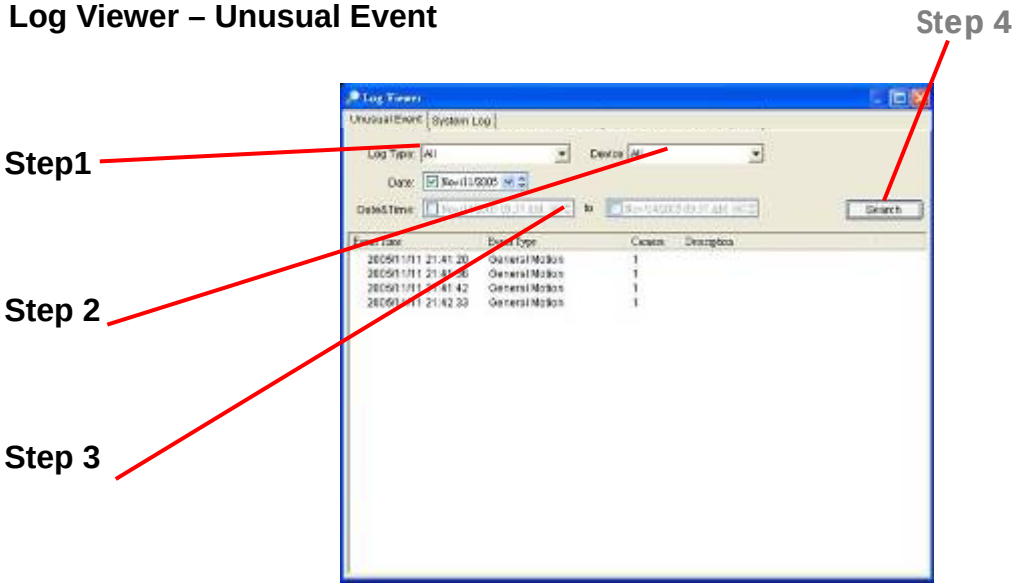
Load Configuration: To load a specific setting, go to Config > Save/ Load Configuration > Load. In the popup window, go to the directory that you saved the cfg files at, select any one of them and then click OK to load the file. Main Console will be automatically shutdown after loading a new configuration. Please re-start Main Console manually.

Note: MainConsole will be automatically shutdown after loading a new configuration. Please re-start MainConsole manually.

5. Configuration

5.8 Log Viewer

5.8.1 Log Viewer – Unusual Event



Unusual Event: View the history of unusual event that had been detected by the Smart Guard System.

Step1: Choose the type of event you want to check or select “All” from the drop-down menu for all types of events.

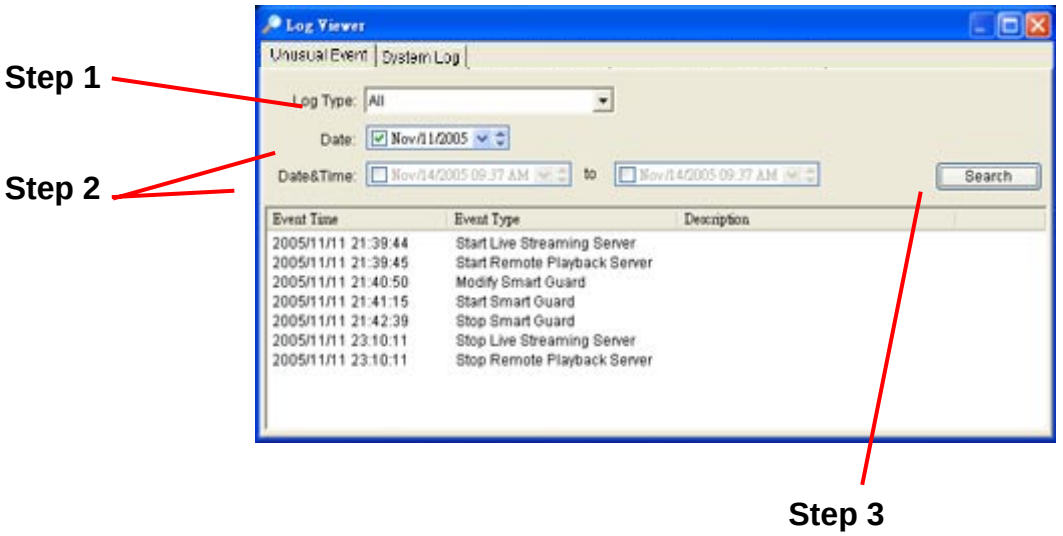
Step 2: Select the camera you want to check the event(s) from or select “All” for all available channels.

Step 3: You may view events happened on a particular date or during a given time period. To search and view unusual event happened on a particular date, mark the box right next to “Date” and indicate the date.

You may also point out two different time points and search for unusual events happened during the period. Mark the box in the Date&Time column and then enter the date and time.

Step 4: Click Search

5.8.2 Log Viewer – System Log



System Log: You can choose the log type from the drop-down menu, following is a complete list of all log types:

1. Main Console Startup
2. Main Console Shutdown
3. User Login
4. User Login Failed
5. Start Schedule
6. Stop Schedule
7. Execute Recycle
8. Execute Backup
9. Enable Channel
10. Disable Channel
11. Start Smart Guard
12. Stop Smart Guard
13. Modify Smart Guard
14. Modify Schedule
15. Modify Configuration
16. Start Live Streaming Server
17. Stop Live Streaming Server
18. Modify Live Streaming Server
19. Start Remote Playback Server
20. Stop Remote Playback Server
21. Modify Remote Playback Server
22. IP Camera Connection Lost

Step1: Choose the type of event you want to check or select “All” from the drop-down menu for all types of events.

Step 2: You may view events happened on a particular date or during a given time period. To search and view unusual event happened on a particular date, mark the box right next to “Date” and indicate the date. You may also point out two different time points and search for unusual events happened during the period. Mark the box in the Date&Time column and then enter the date and time.

Step 3: Click Search.

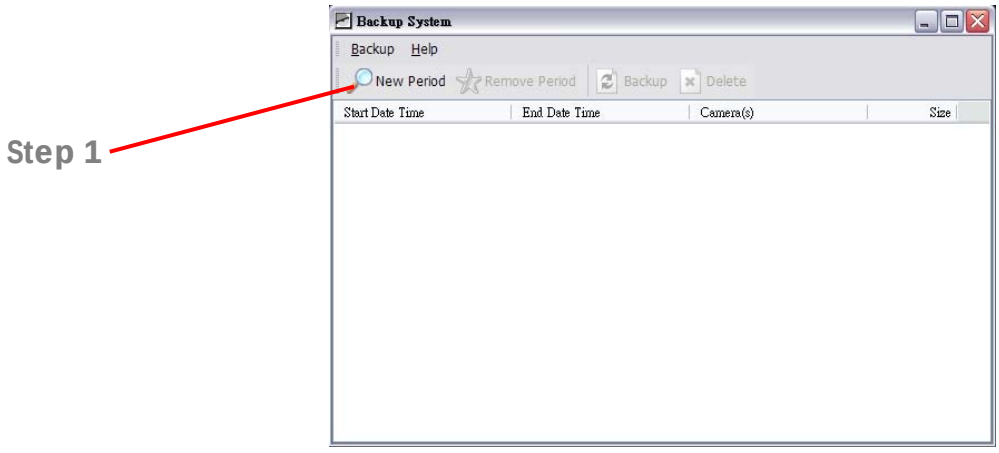
5. Configuration

5.9 Backup

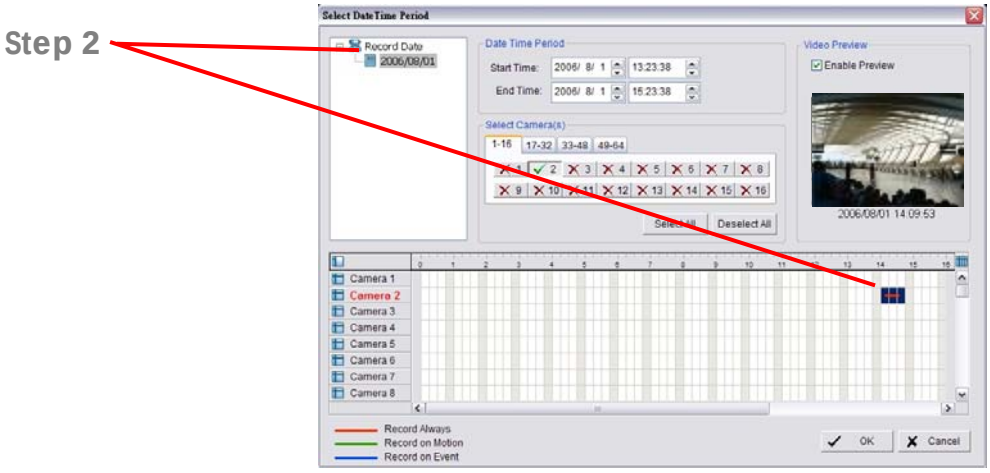
5.9.1 Backup

The backup function saves video record and other log information. User may open backup files on any PC with Windows Operation System and operate the full function Playback panel on it. Follow the instructions below to obtain backup files.

Step 1: Click on “New Period” to obtain the Select DateTime Period panel.



Step 2: From the record date section, select the date you want to backup from. You will see color lines appear in the time table implying available data recorded. Red, green, and blue stands for record always, record on motion, and record on event data files, respectively.

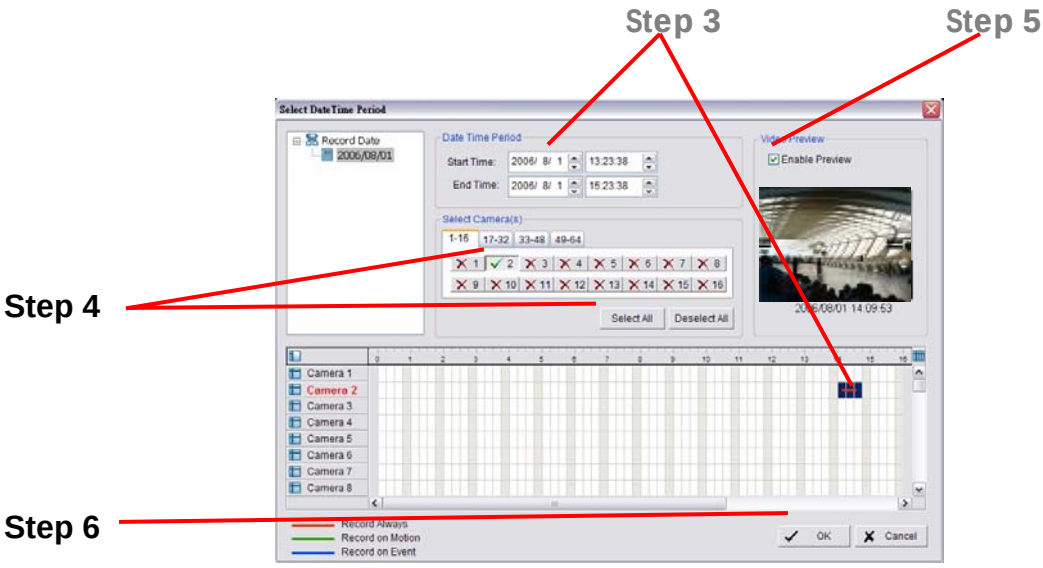


Step 3: Select the data you want to backup by highlighting the time period. Besides the time-table, you may also set up start time and end time in the Date Time Period section.

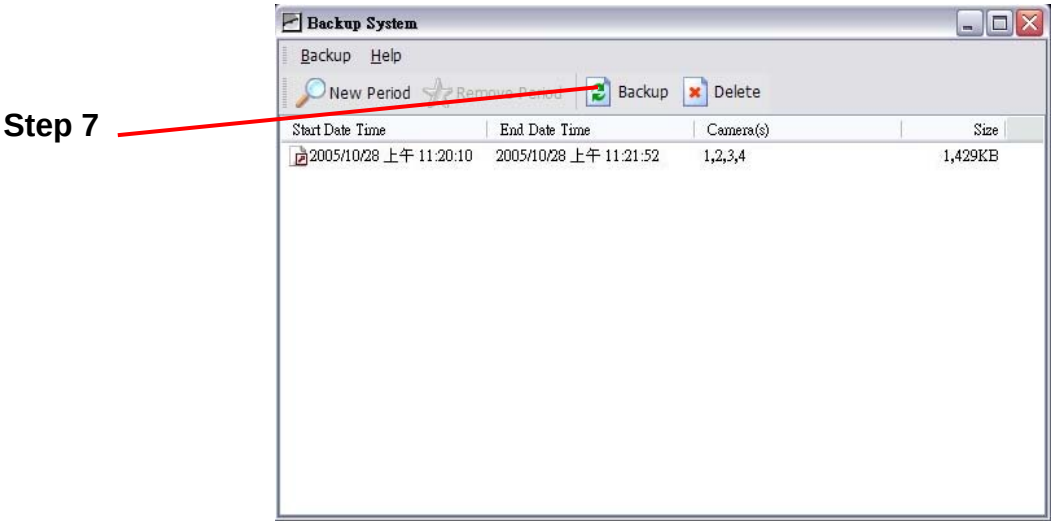
Step 4: Click on the camera number icon to add camera(s) or click Select All to add all the cameras.

Step 5: Check the box of Enable Preview to get the preview of the video you select.

Step 6: Click OK when the settings are complete and go back to the Backup panel.



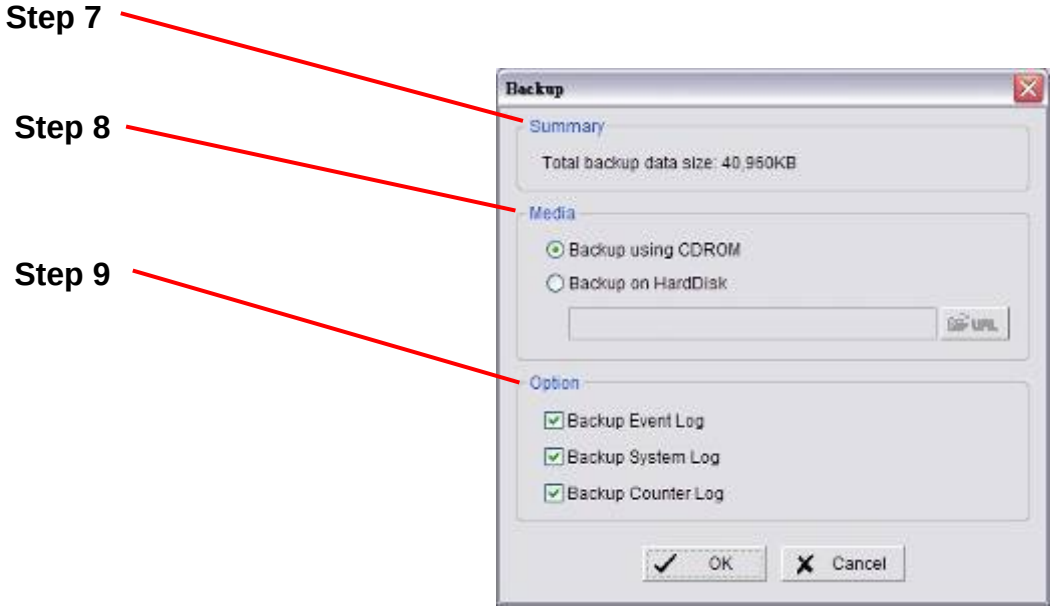
5. Configuration



Step 7: Click the Backup icon to see the size of the file.

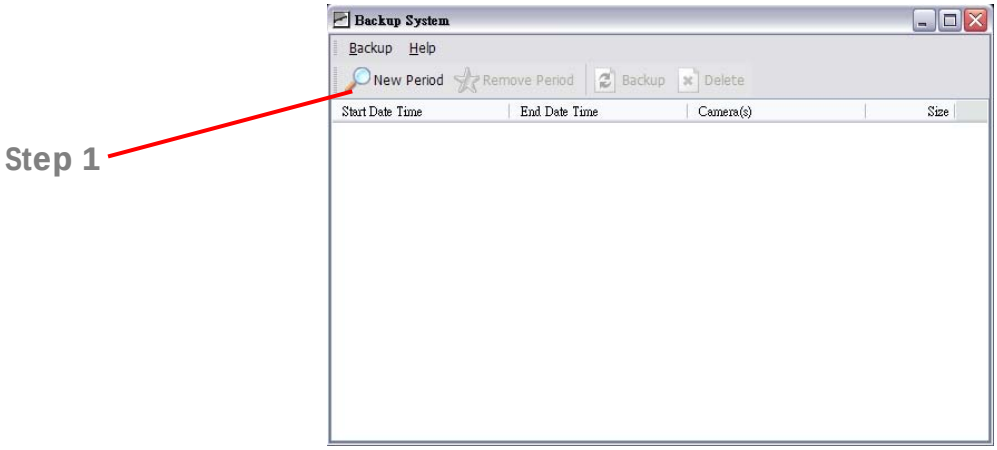
Step 8: Choose the path you want to save the file or burn the file into a CD (direct CD burning for Windows XP only).

Step 9: Select the log information you would like to backup (Event Log, System Log and/or Counter Log) and then click OK.



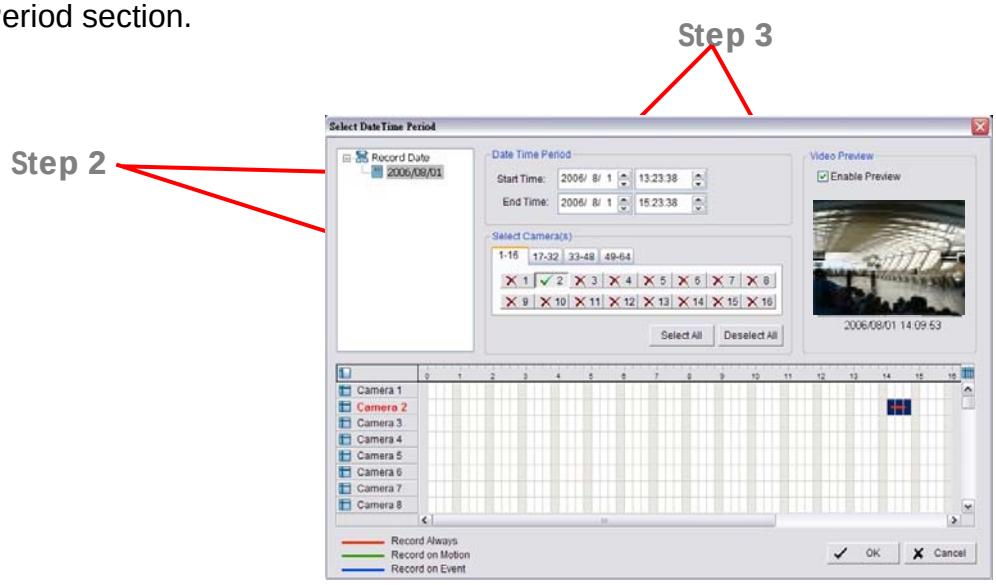
5.9.2 Delete Recorded Information from the System

Step 1: Click on “New Period” to obtain the Select Date Time Period panel.



Step 2: From the record date section, select the date you want to delete the file from. You will see color lines appear in the time table implying available data. Red, green, and blue stands for record always, record on motion, and record on event data files, respectively.

Step 3: Select the data you want to delete by highlighting the time period. Besides the time-table, you may also set up start time and end time in the Date Time Period section.

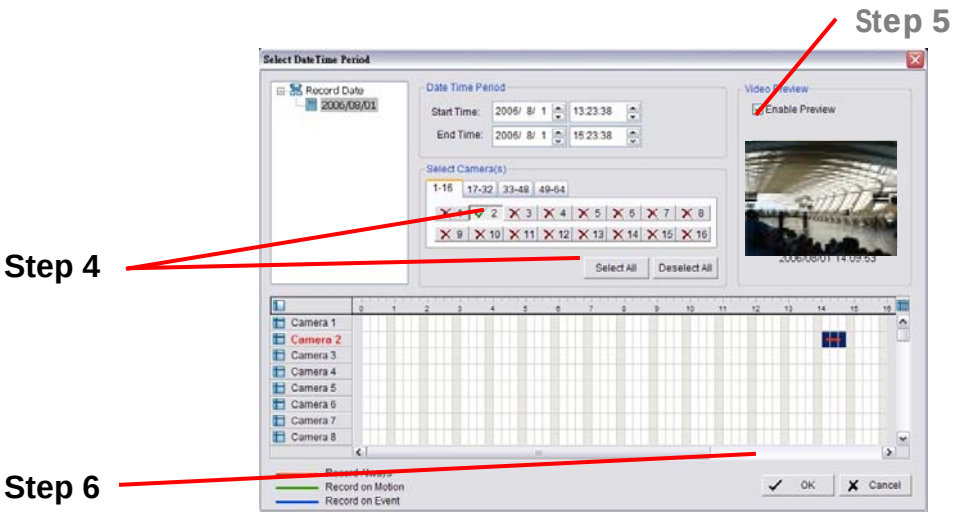


5. Configuration

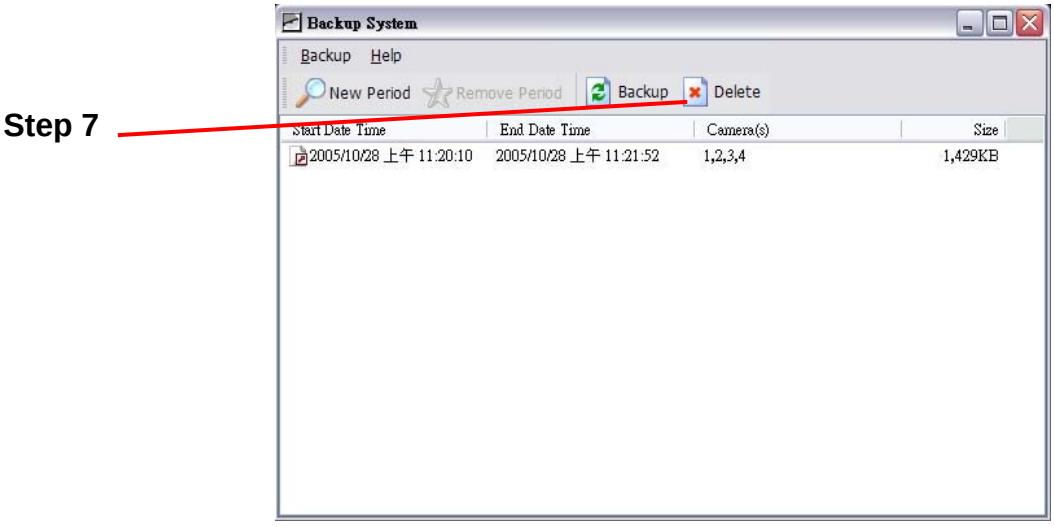
Step 4: Click on the camera number icon to add camera(s) or click Select All to add all the cameras.

Step 5: Check the box of Enable Preview to get the preview of the video you select.

Step 6: Click OK when the settings are complete and go back to the Backup panel.



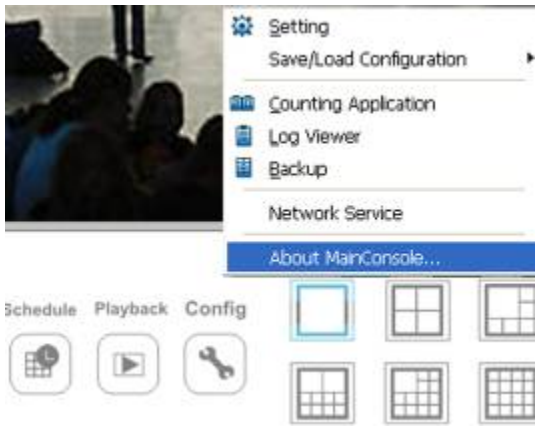
Step 7: Click on the “Delete” icon and delete the data.
Note: the deleted video cannot be recovered.

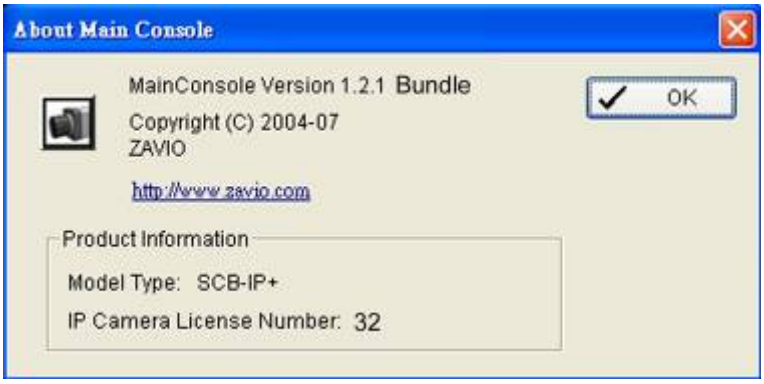


5. Configuration

5.10 About Main Console

Go to About Main Console to view the version of your surveillance system and the hardware information.





APPENDIX A – SYSTEM LOADING

Here are some testing results of multi-channel IP camera viewing:

1. 64 Channel IP Camera with CIF Performance

Equipment Configuration

Software:	MainConsole Version 2.6.4 Professional
CPU:	Intel Core 2 Quad Q6600 @ 2400 MHz
Memory:	1024 MB (2 x 512 DDR2-SDRAM)
Ethernet:	Marvell Yukon 88E8052 PCI-E ASF Gigabit Ethernet Controller
Hard Disk:	ST3250620A (250 GB)
Graphic card:	ATI Technologies Inc Radeon X1300 Series
Operating System:	Windows XP Professional SP2

Results from Test with a Resolution of 352×240

320x240	Quality	Frame Rate	CPU Load	Bandwidth
64 IP camera	Good	20	65%	40~50 Mbps
64 IP camera	Excellent	20	67%	40~50 Mbps

Appendix

2. 16 Channel IP Camera with D1 Performance

Equipment Configuration

Software:	MainConsole Version 2.6.4 Professional
CPU:	AMD Athlon 64*2 @3600+MHz
Memory:	2048 MB (2 x 1024 DDR2-SDRAM)
Ethernet:	VIA Rhine II Fast Ethernet Adapter
Hard Disk:	ST3250620A (250 GB)
Graphic card:	ATI Technologies Inc EAX1600 Series
Operating System:	Windows XP Professional SP2 x64

Results from Test with a Resolution of 704×480 CCD IP Camera

704x480	Quality	Frame Rate	CPU Load	Bandwidth
16 IP camera	Excellent	30	95%	15~20 Mbps

Results from Test with a Resolution of 640×480 CMOS IP Camera

640x480	Quality	Frame Rate	CPU Load	Bandwidth
16 IP camera	Excellent	30	95%	10~15 Mbps

Appendix

APPENDIX B – STORAGE REQUIREMENT TABLE

Please refer to the following table to find out the capability for recording into your hard disk.

B.1. NTSC CCD IPCamera

B.1.1. MPEG4 Storage Requirement GB / channel / day @ 30fps

Quality	704*480	352*240	176*120
Excellent	**21.1**	**8.4**	**2.1**
Detailed	**9.0**	**2.6**	**0.8**
Good	**4.7**	**1.6**	**0.6**
Standard	**3.7**	**1.2**	**0.5**
Medium	**2.6**	**0.9**	**0.4**

B.1.2. MPEG4 Storage Requirement GB / channel / day @ 15fps

Quality	704*480	352*240	176*120
Excellent	**10.5**	**4.2**	**1.1**
Detailed	**4.5**	**1.3**	**0.4**
Good	**2.3**	**0.8**	**0.3**
Standard	**1.8**	**0.6**	**0.2**
Medium	**1.3**	**0.5**	**0.2**

Appendix

B.1.3. MPEG4 Storage Requirement GB / channel / day

Image-Size	Bitrate Setting	Frame-Rate Setting	Storage Requirement
704*480	2048	30	**23.0**
704*480	2048	15	**22.1**
704*480	1536	30	**18.5**
704*480	1536	15	**17.9**
704*480	1024	30	**11.1**
704*480	1024	15	**11.6**
704*480	512	30	**5.5**
704*480	512	15	**6.9**
352*240	1536	30	**15.8**
352*240	1536	15	**16.9**
352*240	1024	30	**11.6**
352*240	1024	15	**11.6**
352*240	512	30	**5.6**
352*240	512	15	**6.3**
176*120	1024	30	**10.5**
176*120	1024	15	**9.5**
176*120	512	30	**5.6**
176*120	512	15	**5.8**
176*120	128	30	**1.6**
176*120	128	15	**1.6**

Appendix

B.1.4. MJPEG Storage Requirement GB / channel / day @ 15fps

Quality	704*480	352*240	176*120
Excellent	**79.1**	**29.5**	**10.5**
Detailed	**52.7**	**15.8**	**7.4**
Good	**36.9**	**10.5**	**5.3**
Standard	**21.1**	**8.4**	**4.2**
Medium	**13.7**	**5.3**	**3.2**

B.1.5. MJPEG Storage Requirement GB / channel / day

Image-Size	Quality Setting	Frame-Rate Setting	Current Bitrate
704*480	Excellent	15	**79.1**
704*480	Excellent	5	**42.2**
704*480	Good	15	**36.9**
704*480	Good	5	**15.8**
704*480	Medium	15	**13.7**
704*480	Medium	5	**5.8**
352*240	Excellent	15	**29.5**
352*240	Excellent	5	**12.7**
352*240	Good	15	**10.5**
352*240	Good	5	**4.7**
352*240	Medium	15	**5.3**
176*120	Medium	5	**2.3**
176*120	Excellent	15	**10.5**
176*120	Excellent	5	**4.2**
176*120	Good	15	**5.3**
176*120	Good	5	**2.1**
176*120	Medium	15	**3.2**
176*120	Medium	5	**1.1**

Appendix

B.2. PAL CCD IPCamera

B.2.1. MPEG4 Storage Requirement GB / channel / day @ 30fps

Quality	704*480	352*240	176*120
Excellent	**19.4**	**4.3**	**1.1**
Detailed	**6.5**	**1.6**	**0.5**
Good	**4.3**	**1.1**	**0.4**
Standard	**3.2**	**0.9**	**0.3**
Medium	**2.2**	**0.6**	**0.2**

B.2.2. MPEG4 Storage Requirement GB / channel / day @ 15fps

Quality	704*480	352*240	176*120
Excellent	**9.7**	**2.2**	**0.5**
Detailed	**3.2**	**0.8**	**0.3**
Good	**2.2**	**0.5**	**0.2**
Standard	**1.6**	**0.4**	**0.2**
Medium	**1.1**	**0.3**	**0.1**

Appendix

B.2.3. MPEG4 Storage Requirement GB / channel / day

Image-Size	Bitrate Setting	Frame-Rate Setting	Storage Requirement
704*480	2048	30	**21.6**
704*480	2048	15	**22.7**
704*480	1536	30	**17.3**
704*480	1536	15	**18.4**
704*480	1024	30	**11.9**
704*480	1024	15	**13.0**
704*480	512	30	**5.9**
704*480	512	15	**7.0**
352*240	1536	30	**16.2**
352*240	1536	15	**17.3**
352*240	1024	30	**11.9**
352*240	1024	15	**11.9**
352*240	512	30	**5.9**
352*240	512	15	**6.5**
176*120	1024	30	**10.8**
176*120	1024	15	**10.8**
176*120	512	30	**5.9**
176*120	512	15	**6.5**
176*120	128	30	**1.6**
176*120	128	15	**1.6**

Appendix

B.2.4. MJPEG Storage Requirement GB / channel / day @ 15fps

Quality	704*480	352*240	176*120
Excellent	**84.2**	**18.4**	**7.0**
Detailed	**46.4**	**10.8**	**4.9**
Good	**27.0**	**7.0**	**3.8**
Standard	**14.0**	**4.9**	**2.7**
Medium	**10.8**	**3.2**	**1.9**

B.2.5. MJPEG Storage Requirement GB / channel / day

Image-Size	Quality Setting	Frame-Rate Setting	Current Bitrate
704*480	Excellent	15	**84.2**
704*480	Excellent	5	**43.2**
704*480	Good	15	**27.0**
704*480	Good	5	**13.0**
704*480	Medium	15	**10.8**
704*480	Medium	5	**5.4**
352*240	Excellent	15	**18.4**
352*240	Excellent	5	**9.7**
352*240	Good	15	**7.0**
352*240	Good	5	**3.6**
352*240	Medium	15	**3.2**
176*120	Medium	5	**1.7**
176*120	Excellent	15	**7.0**
176*120	Excellent	5	**3.2**
176*120	Good	15	**3.8**
176*120	Good	5	**1.6**
176*120	Medium	15	**1.9**
176*120	Medium	5	**0.8**

Appendix

B.3. CMOS IPCamera

B.3.1. MPEG4 Storage Requirement GB / channel / day @ 30fps

Quality	640*480	320*240	160*120
Excellent	**10.5**	**3.2**	**0.9**
Detailed	**4.2**	**1.6**	**0.5**
Good	**3.2**	**1.1**	**0.3**
Standard	**2.6**	**0.7**	**0.3**
Medium	**2.6**	**0.6**	**0.2**

B.3.2. MPEG4 Storage Requirement GB / channel / day @ 15fps

Quality	640*480	320*240	160*120
Excellent	**5.3**	**1.6**	**0.4**
Detailed	**2.1**	**0.8**	**0.3**
Good	**1.6**	**0.6**	**0.2**
Standard	**1.3**	**0.4**	**0.1**
Medium	**1.3**	**0.3**	**0.1**

B.3.3. MPEG4 Storage Requirement GB / channel / day

Image-Size	Bitrate Setting	Frame-Rate Setting	Current Bitrate
640*480	2048	30	**23.0**
640*480	2048	15	**22.2**
640*480	1536	30	**18.5**
640*480	1536	15	**17.9**
640*480	1024	30	**10.5**
640*480	1024	15	**10.5**
640*480	512	30	**5.3**
640*480	512	15	**6.3**
320*240	1536	30	**15.8**
320*240	1536	15	**16.9**
320*240	1024	30	**10.5**
320*240	1024	15	**10.5**
320*240	512	30	**5.8**
320*240	512	15	**6.3**
160*120	1024	30	**10.0**
160*120	1024	15	**7.9**
160*120	512	30	**5.3**
160*120	512	15	**0.5**
160*120	128	30	**1.4**
160*120	128	15	**1.5**

Appendix

B.3.4. MJPEG Storage Requirement GB / channel / day @ 15fps

Quality	640*480	320*240	160*120
Excellent	**42.2**	**15.8**	**6.3**
Detailed	**25.3**	**9.5**	**4.2**
Good	**16.9**	**6.9**	**3.2**
Standard	**13.7**	**5.3**	**2.5**
Medium	**9.5**	**3.7**	**1.8**

B.3.5. MJPEG Storage Requirement GB / channel / day

Image-Size	Quality Setting	Frame-Rate Setting	Current Bitrate
640*480	Excellent	15	**42.2**
640*480	Excellent	5	**16.9**
640*480	Good	15	**16.9**
640*480	Good	5	**6.9**
640*480	Medium	15	**9.5**
640*480	Medium	5	**3.8**
320*240	Excellent	15	**15.8**
320*240	Excellent	5	**5.8**
320*240	Good	15	**6.9**
320*240	Good	5	**2.7**
320*240	Medium	15	**3.7**
160*120	Medium	5	**1.4**
160*120	Excellent	15	**6.3**
160*120	Excellent	5	**2.4**
160*120	Good	15	**3.2**
160*120	Good	5	**1.2**
160*120	Medium	15	**1.8**
160*120	Medium	5	**0.7**